

DRAGON

USER

International edition

The independent Dragon magazine

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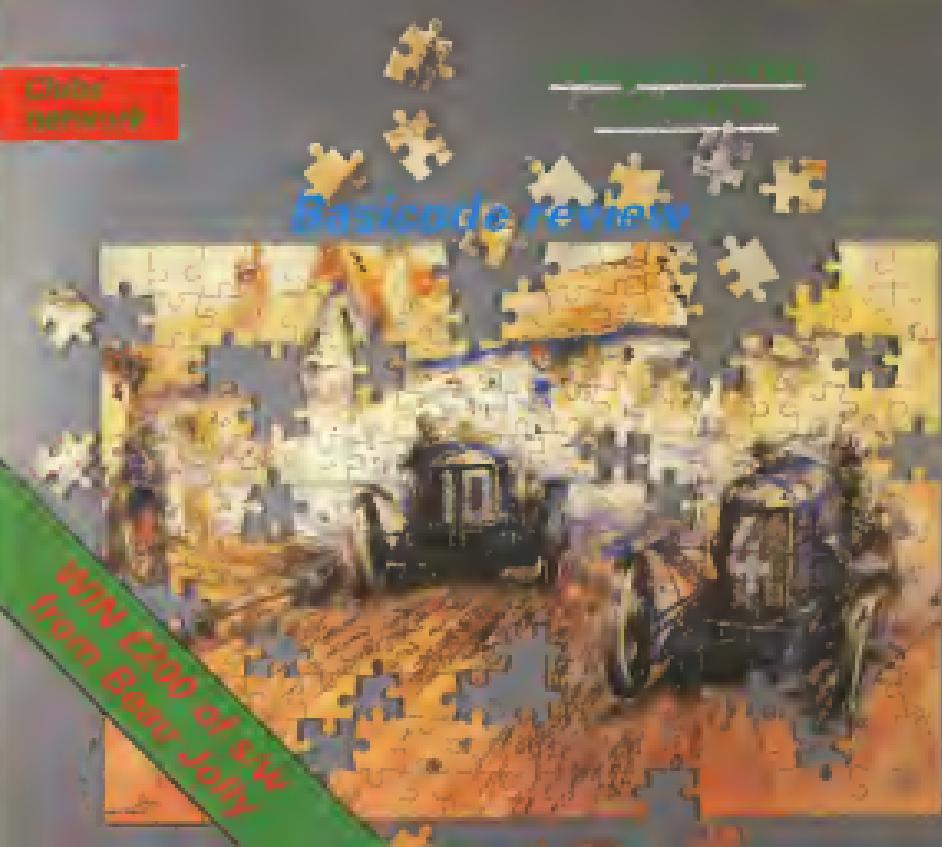
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DRAGON USER



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Please submit articles

The quality of the material we can publish in
Dragon User each month will in a very great
part depend on the quality of the
discoveries that you can make with your
Dragon. The Dragon computer has travelled
in the market with a powerful reputation
but with every year dissemination

of which has continued to Dragon
User for publication should not be more than
2000 words long. All submissions should be
typed. Please leave wide margins and a
double space between each line. Programs
should, whenever possible, be contained
printed on one side of paper, and be enclosed
separately from the text of the program.

We cannot guarantee to return every
submitted article if a program requires too
many lines. If you want to have your program
reviewed you must include an address
for returned material.

Contents

Letters

Including the month information on model
air Dragons, an ITT answer and how to
become a program tester.

News

The latest on GCD's marketing plans and
details of new peripherals and software on
release.

Cubs

Local and national clubs are now providing
an important service to Dragon users —
Gordon Ross details the growing club
network.

Dragonsoft

Dragon software seems to have made a
considerable start; our reviews give the
lowdown on what to expect.



Chip Shop

Keith and Steven Green review two basic
codes that allow you to tune into the BBC's
Chip Shop show.

Versatile Interfacing

Brian Dodge takes a look at a simple
interface from MCJ Electronics.

Editorial

MINISTER EIGHTY FOUR is a date that has been associated with catastrophe and
hence war since George Orwell wrote his chilling vision of the future in 1949. In the
event of course, 1984 turned out to be something of an antediluvian. No Big Brother, no
Artificial One.

For the computer industry however, 1984 still has a certain significance. The parasite
who had been preceding a massive shake out in the market chomps on selection from
the disappearance of Tycoons and Computers. I thought this was believed to some extent
by the emergence of Amstrad.

The Japanese also made their long-awaited entrance into home computers with the
much hyped MSX that despite the Japanese domination of the hi-fi and electronics
markets there are some doubts as to whether they will actually take over the micro
market. The 2000 might be standard around which MSX is based may be too
old fashioned when compared with the newer 16 bit offerings from Sinclair et al.

Dragon, despite hefty cash injections, failed to dominate its software and hardware
productions with the result that it was sold to Spanish company Blandford. Dragon
software houses immediately started to convert their programs to other machines, if they
had not done so already.

Jack Tramiel, the man who founded Commodore and built it up into a multi-million
pound company, resigned in a boardroom dispute. But he bounced back with more to
lose to himself than from Wards. So 1984 has been a year of considerable change for
the computer industry. It is quite the watershed inasmuch as Orwell's 1984 holds
at stake a catastrophic prediction, other than that the marketplace become yet more competitive.
To thoughts an ancient Chinese proverb: "We live in interesting times".

Snakes alive

Andrew Ward sets his snake on a pit
during our progress of the month.

Bookbytes

Our reviews help you pick the books
that are most likely to suit your needs.

Dragon designs

Gordon Ross gives you the information
necessary to create good graphics and
improve your programs.

Open file

Readers' programs that month include a
screen editor and a newspaper layout.

Tandy/Dragon conversations

Jason Hedges has the Dragon and CoCo
users used to represent BASIC commands
and shows how to play a tape on one
more when it is programmed for the other.

Adventure column

Mike Gardner continues his survey of the
adventure software.

Dragon Answers

Brian Dodge offers a range of advice
including instructions on the Dragon's reso
lve command and information on moving
graphics past by date.

Competition corner

Bruce Joly provides the puzzle to Gordon
Lewis's next question.

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Letters

Sing Dragon . . .

If you're interested in your readers who would like to use their Dragon as a control of a musical keyboard, then they can do this as with the recently released Giga-MT 2000. This is one of a selection of new keyboards from Casio. It costs £130 and is linked up to the Dragon 32 via keyboard bus or necessary interface — the PA 1. This costs £30 and plugs into the Dragon's sound card in a similar case.

Using this system, the computer can be used to select one of the eight preset voices, play a tune from one of the six preset rhythms, and play up to eight notes — as the computer could be used as a part of a sequence to build up a melody, or chord accompaniment, which can be played behind your piece of music.

Obviously, it does not have the facilities of the MIDI system, and is an alternative. However, it does provide the Dragon with an excellent sound system at a reasonable price. The software should just presently be in the public domain, but there is not too much freely available (that I'm aware of). I had this system up and running and being a present for my son's birthday.

Which brings me on to my last point: could I fill all the functions of each port on the Conference socket (Sanyo, Sirobo and so on)? This will form a major part of my project and I would be very grateful for any help received.

Raymond McLean
2 Meadow Avenue
Highgate Hall
Macclesfield M6 2PP

. . . sing

In response to the publication of your news item (A Call in October's Letters Page 8) in December I would like to point out that Blackdown Mylo Technical Corp has been investigating a general purpose control interface for some months now.

The board which plugs into the cartridge port has both analogue (A/D and D/A) as well as digital input/output facilities (I/O), input registers and many options. For the purposes of controlling a vintage synthesiser, the D/I is a converter for an 18V pulsed voltage source which should easily control a musical synthesiser. Software is

not so much of a problem as the normal carefully exploring the individual functions of components at the interface and gates logic and associated machine code examples for use.

The board has proved to be particularly popular with schools and colleges throughout the country and it would be numerous applications from robotics, artifical intelligence and speech recognition to controlling 3D ton generation, hammer, industry robots, and teleconferencing.

Dr Steve Verner
Blackdown Mylo Technical Corp
8 Arundel Road
West Derby
Liverpool L12 4PR

Secure program

FOR SOME time I have been trying to obtain a program giving information from your magazine over to that to choose the LSI 11/33 and 33/34s. I have been involved in developing a cold start, on board and have tried the various codes published in the magazine but the effect of issuing the machine code than issuing a cold start presents issues to the program.

Now is a subsection I use to input from the keyboard. I have used the keyboard successfully to invoke the programs:

10000 AB=00000000 10 AB=100000
10001 E AB=00000000 THEN RETURN
10002 PRINT AB
10003 AB=AB=AB to create string
10004 GOTO 10000

Using the IBM function to copy the string to memory if necessary. For example

10 PRINT abcd: PRINT abcd
11 B M 11 14 0 0 0 0 1
12000 A=VAL (ABD AB)=
0000= creates the string variable for my project

130 PRINT abcd: PRINT abcd
14000 0=VAL (ABD AB)=
0000

Here the term colon after the print allows me ensure that the key pressed is printed after the next square to enter. This should be inserted at the beginning of the keypress as to be printed on the line below.

Using a similar subroutine (printing line 10000) to input information code to use the program or even to enable space to that code I can break the program I have. I have finally managed to

Michael Green
Cambridge
W1G 8JN

IT answer

WITH PERTINENCE to Kenzie Woodward's letter (October, Page 100) I too purchased the Amiga Model 1000 (1MHz 68000) and initially had the same problem.

I finally solved it by booting directly and using the job reservation programs provided with the TV and also Dragon Data. Information for machine code items.

I have used a 5 pin DIN plug with 2 x 2 pin core wires connected to the Dragon's monitor output, one pin goes 2 for the video, and the others pins 1 and 3 for sound (2 being earth). These are connected to the TV as follows:

Video signal to the 201 209 input linked with the colour selection switch. The sound signal is taken to the R/Audio In socket with the Impulse to earth and the second wire connected to the green Audible Signal input.

The volume setting on the TV has to be set fairly high to obtain a good sound level.

John Nash
Birmingham
England

Jolly good news

FOLLOWING a recent article in your publication regarding the Amiga, we have had a number of letters from Oregon users asking where they can purchase the game.

Unfortunately due to lack of dealer and distributor support and accept, we will not be releasing this game. However, as a special offer to your readers we would be quite happy for them to write to us for the individual games and instead of paying the normal £12.99 price for the game, they may obtain four games for £14.99.

The games are:

Legged Pedro, Coopers Choice, B.C. 648

We are also about to release Asterix for the Dragon and we would include this game which will also retail for £12.99. The total for the five games will be £15.99.

This means a saving of £1.00 on the five games.

Chris Addy
Box 101
134 New Broadway
Edgware
London NW2 6AE

Across the Atlantic

After writing on behalf of Oregon users in the USA, the company that originally distributed the game in America is no longer supporting the Dragon. There seems to be many little hardware or software available and as a result this leaves me and my Dragon customers in a spot.

In looking through your magazine, I see many sources for products, but almost all of them are not developed in the United States. I would be most interested in hearing from any persons that have a USA distributor or who wish to get details for shipping products to America.

Ray Sharp
Computer Center
1044 S. Julian Avenue
Morgan Hill 95037-5524

Software Top 10

- 1 (5) Hunchback
- 2 (-) Mystery of the Java Star
- 3 (5) Hungry Horace
- 4 (-) Mr Dog
- 5 (-) Centaur in Space
- 6 (-) Krangipal
- 7 (2) Chuckie Egg
- 8 (-) Dragon Chess
- 9 (2) King of Darkness
- 10 (-) Bigfoot

Orion
Shares
Melbourne House
Microsoft
Microsoft
Beyond
A & T
Ozark
Wintersoft
Microsoft

Chart compiled by Western Software

GEC sells last stock



CCC: Had sold all of its existing stock of Dragon products and had no immediate plans to purchase the Dragon Games Judd marketing manager of CCC Radio and Television said that all of CCC's stocks of the Dragon 62 and 64 had been sold to an unincorporated buyer together with certain quantities of single and double density disk drives. Delivery of the goods will take about a week.

It is not known what price would just let the producer recoup price the product and the cost but might vary considerably.

It now looks as if QPC's association with the home computer market is in doubt. Although the company is in contact with Eurotech Ltd, the Spanish manufacturer of

Dragon modem



A FULL-fidelity modern hardware-compatible with the Dragon has just been released by Unicore for £49.95 excluding VAT. The modern features fully dual auto mode and answer, auto band selection, full duplex, half-duplex, bulletin board facility and many more options.

[View Details](#)

The Dragon, it has not yet come to any agreement.

Future marketing arrangements
GEG has also studied any immediate plans to manufacture an MSX computer. Denshi confirmed that the company does not have a license from Microsoft — The American licensee of the MSX also does not.

One point of good news reported is that QBC is not fully terminating plans to establish a Dragon paper and currently expects possibly in conjunction with Touchstone — the company formed by ex-Diamond Glass director Brian Mease and Richard

The service is expected to cover Oregon road from the time and after the arrival of Oregon State highway department.

New releases

IMPACTING lightning bolts and ice pellets play a major part in some of the best releases by the Phoenix.

New from Castle Software is time for Christmas see them this all exciting for the PC each Fighting Fantasy is an arcade adventure with 30 rooms which are an effective three-headed regime. You choose the character of a man by use of the joystick. Each room has different guards and objects to be overcome.

The game can be played either as an arcade game or an adventure in which you must reach the last powers configuration, planning and thought are needed according to Peter Philips of Cables Software.

You will need to gather a range of codes to update the keypads needed to open subsequent doors. Also various weapons are necessary to overcome opponents. The weapons include weapons, lightning bolts and energy blasts. It is a very complex but colour oriented machine code game which for any other reason would have been coded in assembly language, according to Peter Philips.

Cable's other two releases are *Homebase* — an arcade-type game written in 100 pages of machine code which is a sort of Lunar Jim Man game you'd play on a rock-launcher board at a video crat — and an as yet untitled program involving nine different screens with revolving objects and a mad woman called Eddie. Written in machine code it also is a multi-surface action game with full colour graphics.

[View other items in this category](#)

screen display with upper and lower case characters. This program also enables the user to type in like a printed copy.

The inclusion of a great variety is to allow the Dragon to simulate a large terminal. By using the techniques of Encapsulation the various systems operated by Cables and Networks it is possible to send and receive information and messages via modems at any time of the day or night. Further integration from Colorado Computer's 8 Major Room Channel Matrix Concentrators

A title from Cable Software Users are being offered a free game from the following Cable titles: Living Stone Design, pay, Double Dragon, and Trace Race. Cable Fighter, Baccarat, Stratego, Return-Mump Invaders. Two full price games will get you two free games. Partner points from Cable Software (P.O. Box 1000) 209-4500.

"Combining Comprehensive and new names to Dragon Masters, is releasing its first title for the Dragon called "DragonMaster Releasing for DS" the game is based on the House Christian Anderson's, original story in which the boy King is inspired by the Queen Queen is his patient of eye. He cannot gain his freedom until he can find it the wood ETERNA". From the dragonfly he learns from a lot of ways the release.

The game is a mixture of educational and fun and is set for ages around seven and above. Turnier: distant from Children's Components at 18 Damstraat, Cisse Prestatijen. Cost: £1.25-£2.25.

Finally both Knight and
Sullivan joined Yungling Wasser
who "jumped" his way to the
top of each of those pyramids
making his way to the door
unlocking it and hoping
for a reunion with his derring
Daisy and Team Attack from
Tudor Williams a low resolution
military graphics game with
torpedoes and probes

Further details, Mrs Dorothy
Williams at 105a High Street
East, Cheadle Hulme, 1261 840
and Mrs Tudor Williams (still
residing at 18 Summerfield Road
Cheadle, West, Macclesfield
2200-2201).



Maintenance guaranteed

THREEY maintenance services are now being offered by two new firms in the computer industry.

Following the collapse of Oregon Data several months

ago many readers have been interested enough in getting their Dragon's required regularity with many service agents reportedly having difficulties in obtaining spare

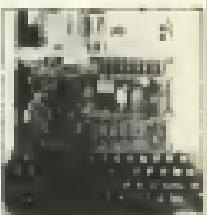


parts. Now Global Computers and the Micro Repair Club are offering repair-guarantee packages which users can subscribe to when their manufacturer provided warranty runs out.

Global's John Kensington stated that their engineers "are trained up to meet home computers" and are offering a warranty for one year which covers all electronic components within the computer including the cost of all labour charges. If necessary, the company will replace a computer if it cannot repair it. Global charges £1200 a year for a machine that is up to 24 months old and £30 per year for a machine that is over 24 months old. However, those that are over 24 months need to be sent to the company to ensure that they are in working condition.

The company will also repair items that are already faulty, but again these must be sent to the company as well as diagnostic and quotation can be obtained. For further details contact Global Computer Consultants at Chestnut House, Bridge Road, Southgate, Middlesex, UB3 4RQ, telephone 0181 54116.

Micro Repair is offering a similar service for the 386 Parallel card after the first year at £14.95. Through the company is offering a four year subscription for £57.95. The maintenance work will be done by Computerised Services part of the Thorn EMI Information Technology Division.



Micro Repair also has a schools scheme whereby a school with more than one micro can join the club for a membership of £24.95 for the first micro and £15.95 each for all others. Further information about the university service can be obtained from Simon Johnson, Micro Repair Club, Stag's Coat, Mansel Road, Amersham, Bucks, HP10 0AA, telephone 0182 7777.

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Nationwide network

Gordon Ross details the growing Users groups, including the latest national Dragon club

A total national Dragon User group has been set up following the merger of Dragon User, Dragon Dungeon and Computerhouse UK. Members, Games and Competition UK exists with their own newsletters/magazines.

This club has, as yet, no name, but with 200 members and well over a dozen meetings per year it is well on its way to becoming established. Negotiations are currently being made with a number of software firms regarding the possibility of the group offering discounted software. At present there is a 20 per cent discount on new packages by Big Software and it is hoped that both Microgen and Tandysoft will be making their range of software available to group members at a 10 per cent saving.

The group is also consulting with Chris Dore (Computers) about the possibility of obtaining the 2,000 set of members that Computerhouse UK (below) obtained from Computerhouse UK. Below we publish an extract from the editor of the group's first newsletter:

The users group is being formed due to the census of both Dragon's Testbed and Dragon Data. Our beloved box of tricks is now in the hands of the pernicious Spanish and it was thought that some sort of voice was needed to promote our interests and exchange information. Which brings me to the main message of this editorial: **only clubs — and especially a national one — can truly survive with a large and diverse membership. THIS MEANS YOU** so if you have any problems, opinions, comments or contributions write in — also if you know anyone with a Dragon persuade them to join up. In short go forth and multiply.

Subscriptions for this year is £10 or £7.50 (this may seem a bit steep, but with the clubs relatively small, costs are high). Next year we hope to be able to drop the price.

There has been some interest expressed in networking efforts by readers of PTTY. I imagine this would be for those who already possess the equipment (at least four and 16 plus in pc). That is enough from me at least, assuming this isn't, as mentioned from here-on-in it's down to you.

Further details about this club can be obtained by sending an SAE or postage to the following: James Mayhew (newspaper editor), 47 Oxford Road, Princeton-Sea, Essex CO12 9EY. Paul Giese (club chairman), 4 Savernake Road, Wokingham, Berkshire RG10 2JN. Tony Jones, 13 Bay View Road, Colgate Bay, Chelmsford, Essex CM2 8QW.

Dragon clubnet

Midlands Midland Regional Computer Club, Tidmarsh Leisure Centre, Leighton Buzzard. Small club meets on Friday 8pm to 10pm — all systems welcome.

Southwest J. R. Carter needs his small group to get bigger — write to 1 Clerkenwell Road, Bristol BS1 4BB; telephone or teletype 0225 20004.

English Brighton Hosts a David Club meets every second Wednesday at the Brighton Community Centre from 7.30 to 10 pm — contact the Hotline Secretary, 3rd Lieutenant Roger East, Royal Engineers, 8800 5500.

Central 19000 User Group and Paul Hill, 28 Western Road, Lutonshire (Central) — older model power group.

West Western Computer meets every Wednesday evening at the Golden Lion, West Road, Merton — write to Mr Chipperfield, 220 Ecclesall Court, Bramley, Devon, or telephone 0342 202222.

Elsewhere General Computer Discussion Part 10000 group meets every second Monday and has a regular newsletter.

North Doug Evans, Dragon Independent Owner Association, School House Avenue, Redcar, Cleveland, TS10 2AS.

North David Hodges, Independent Northern Area Dragon User Group, 1018 Newmarket Lane, Northumberland, Newcastle, NE2 2BG — regular meetings held every weekend and a local buy/give newsletter in progress.

Northwest Paul Kennedy wants to form a Users group. His address is 21 Brougham Avenue, Eastgate, Warrington, Cheshire, WA1 1LZ — telephone 0565 62068.

Leeds/Bath Major Frankin, North West Thy, 10000 user group, 40 Castlemead, Westhoughton, Bolton, Lancashire — growing number of Dragon users meet every month at local user meetings and public user meetings.

London John Baldwin, Blackdown Computer Club, 1 Salter Street, Finsbury Square, EC2A — meets every second Monday at 7.30pm at the Finsbury Hotel, Soho, London, EC1V 4ED.

London 24 Micro Group, 41 Parkstone Road, Hove, Sussex — publishes 24 Information and meets monthly at central London, Brighton, White is the group for further details — 0303 620000 contains extensive.

Midlands Dragon User Group meets on Mondays at the Congregational Centre, Castle Gate, Hereford — 0544 21111. Also Julian Rawlinson, 18 Colmore Close, Birmingham, B15 2BN, Birmingham, or telephone 021 2610511.

South Tony British, Culham Computer Lab, 10000, Newby Court, Community Centre, Culham Street, Abingdon, Oxfordshire — an all user club including 20 Dragon owners.

Midlands Tony Westcott, Team Computer

Club, 17 Allens Close, Tattenhall, Cheshire — an all user club including 15 Dragon owners meets fortnightly.

Scotland Peter Thistlethwaite would like to set up a Users club for Dragon owners in the Scotland area. Contact Peter on Dundee 213350.

Wales/North Central Computer Club meets in the Mid Glamorgan area of Wales — the 1st and 3rd Wednesday of each month — contact A. H. Radford, 41, 24 Penygroes Drive, Glare Hill, Ebbw Vale, Gwent, NP2 2SD; telephone 0446 271350.

Yorkshire 10000 User Group, 1st Friday 7.30pm, Monk Fryston, Middlesbrough — meets monthly alternating between a pub and Monkton City Polytechnic — contact Robert Greenhalgh, 101 Hemingthorpe Valley Road, Pontefract, WF8 4LS; telephone 0924 824242.

Channel Islands Dragon User Group, 10-12 Buckley Road, St Helier, Jersey, JE2 1LJ; telephone 01534 221111.

Northumbria External Docs, North Coast Microcomputer Users Club, Blyth, Northumbria, telephone 0907 580000.

Scotland David Anderson, Scottish Dragon Club, 1 Skirrid Street, Edinburgh.

Scotland Stewart Hutchison, 18A Rosebank Terrace, Edinburgh, or telephone 031 5551112.

Scotland James Eaton, Plymouth Computer Users Club, 10 Heathcote, Plymouth, Devon, PL1 1JG — meets every Monday and Tuesday evening from 8.30 to 10.30 pm.

United Kingdom National Dragon owner's group, Non-commercial group with approximately 2000 members. Further details from Paul Grade, 4 Newmarket Road, Wellingborough, Northants NN11 1PS; postcode.

France Stéphane, Havre 84 looking for Dragon pen-pals to swap ideas and programs with his address is 7-10 Rue des Phoenix, 67000 Strasbourg, Marckolsheim, France.

Denmark Dragon User Club, Dr Kjærness and Tommy Grønneberg, Tofte, 144, DK 3330, Munkebo, Denmark.

Belgium Michael Van Herreweghe, Dragon User Club, 18 Lijmenstraat, Oostende, Belgium 8300, Belgium.

Belgium A. F. Timmerman, Rue des Cornets, 10-12, 1010 Brussels, Belgium — owner of a small Dragon club of about 30 members.

New Zealand A. G. Cooper wants to start a Dragon and Colour Computer Users club — his address is 12 Colenso Street, Wellington, New Zealand.

South Africa Ian McColl invites other 20 Dragon owners to contact him at 21 Swartek Road, Rondebosch, Cape Town.

Dragonsoft

Rampage

Program: Mono Music Software Projects, The Bear Brand Company, Allerton Road, Woolton, Liverpool L25 7QF. Price: £19.95.

One of the most popular games to be released for the Spectrum was undoubtedly



MANIC MINER.

PRODUCTS LTD CONVERTED FROM

Manic Miner, now Roy Castle has converted this game to run on the Dragon and it looks to be just as good on this machine. The only real difference from the original version is that the graphics are all black and white. This may be necessary otherwise to maintain the same resolution as used on the Spectrum.

The object of the game is to guide miner Wally through the 20 screens, collecting objects as you go. The various

rooms include conveyor belts,乃naging tanks and bouldering galleries. The sound effects are adequate and there's a continual musical accompaniment but as this is the same tune played over and over there is, hopefully, an option to turn off the music.

The only controls you have are left-right and jump, the keyboard is used and is an

initially responsive browser not including a physics option the 20 days seems rather strange.

This is a faithful reproduction of the Spectrum version and the fact that the graphics are black and white doesn't detract from the real appeal of this game — one for the collection!

Ron Carte



Back and forth

Program: Boris the Bold, Baby Computer Games, 10 Crossways House, Lutterworth Road, Bletchley, Milton Keynes, MK1 1QH. Price: £1.99.

THE IDEA of this game is to get Boris down to the bottom of the screen through the holes that move backwards and forwards on the platform while avoiding the various path-finding objects and collecting the diamonds for bonus points. The move from top to bottom must be made in a certain number of seconds (20 on the first screen increasing by five on successive screens).

The game plays well the response is good, the graphics move smoothly and the sound is the best I have heard on any Dragon game. However, unfortunately, the

program has several bugs that spoil its perfection. At the beginning of each of the screens and then are jumped for a second. This is bad programming technique. Also one of the features is what are called "Energy Bursts". These appear randomly among the levels and if you jump at the wrong time the money is added to your total when all the dollars have disappeared from the screen. A new location appears. Some of the awards you need are tricky such as Boris has to fly by you to the top of the ob-



New software for review should be sent to Dragon User 121-121a Newgate Street, London WC1R 8LD.

from very easily and if the program fails this will need to be RECALLED after loading. Sorry to sound very wary.

The program supports a pause, hold and pressing break returns a game, but the program performs a "reset" on these keys. Why don't programmers ever think about a HOLD and an STP? (the usual method) in the start address? It would give a lot of control and would offer more protection as the "cold start" code can be recovered

from very easily and if the program fails this will need to be RECALLED after loading. Sorry to sound very wary.

As software, it is very good games, indeed, though not beyond average, by today's design standards. It is surprisingly addictive and is yet another case of a simple concept being a good one. Well worth adding to your collection.

John Orme



Money Jump

Program: Classroom Materials Ltd, 43 Thorpe Road, St Albans, Herts, SG1 2UE. Price: £3.00.

MONEY, so called, two-player games, merely allow you to take it in turns to control the opposition. Classroom Money is one of the few games where both players can battle it out on the screen at the same time.

The object of this entertain-

ing program is to collect as much money as you can while avoiding the strange obstacles that also inhabit the screen. At the start you can choose to control the player who looks remarkably like Paprika or the grumpy old bat if both of them if you have a partner who likes you better to collect more than the other.

Each location contains several conveyor belts and interplay as well as carefully placed dollar signs. If you jump at the right time the money is added to your total when all the dollars have disappeared from the screen. A new location appears. Some of the awards you need are tricky such as Boris has to fly by you to the top of the ob-

ject, but look out for ones who reduce your length of time at the game, as well as bombs and apples. Free download on with little warning. As you complete one screen, another appears that increases in difficulty until you finally you can choose at the start where to begin your challenge and thus out the easy versions.

The concept of the game is good and in spite of the fact that the figures are difficult to control if they are hard to get a high score. If you choose a lot of money points in the game however, it gets a lot more difficult with ramps appearing



out of nowhere and result in all the loss of your ability to jump. This is the first time I have seen this arcade game on a home computer and Classroom appears to have a winner that should while away many hours in evening.

John Orme



Bulls eye

Program: Data Baby Computer Games, 10 Crossways House, Lutterworth Road, Bletchley, Milton Keynes, MK1 1QH. Price: £1.99.

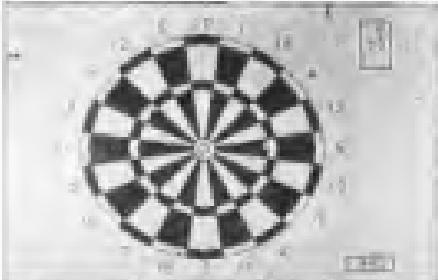
BULLS-EYE is a computerised version of the popular pub game. Up to nine players can take part using one or two joy sticks. A variety of games are

possible — 200, 501, and 1000, each with or without a double to play. There is a choice of nine difficulty levels which range from easy to impossible. An extra feature is the "team game" option which allows players to score for themselves or play some of the more unusual games sometimes found in pubs and clubs.

The darts are served by moving two pointers, one at

the top of the screen and one on the left. The interaction between the two pointers is where the game is broken when the fire button is pressed. It

gives a compulsory and at £1.99 its certainly cheaper than a cladding board. However, Darts is a competitive game and so loses all of its appeal



if the player takes too long at aiming the dart it is broken automatically. The program displays each darts score as well as the total left to get and before each turn, the player is informed of their current score.

Darts is a well thought-out game, ideal for those occasions when bar-crews of friends turn up demanding to

play quickly if played by only one person it is a pity that the authors didn't include a "computer versus player" option which would increase the appeal of the program. That aside it is a good game and may represent excellent value for money.

David Rosevear



Egg waves

Program: Dennis Scott, Microcom 41, Tiverton Road, St Austell, Cornwall PL12 8JE, Price: £1.99

AFTER many novel ideas, it seems a little strange to find Microcom releasing a game as long in the tooth as the one based on the arcade favorite of two years ago. Phoenix, this is a six-screen machine code version that seems heavily influenced by Hades's maze-based the likes. Only the graphics have been changed to please the discerning.

The game starts with the traditional picture of Caribbean gypsies waving eerily at the rest of the program levels. There's enough time to go and make yourself a cup of coffee while the happens and as you return the tale then appears together with the option to choose a black, buff or green background. There are no scroll levels, though, and the fine lines therein present no great difficulties.

The theme is saving your best from evil destruction. His lair in the form of a demon for the gypsies to

the top of the screen. The odd salient ledge or gap results off from the rocks and swoops down on you as you climb away with your laser or move left and right to avoid it. If you succeed in destroying a screenful of these monsters another wave appears followed by a squadron of cassette eggs. These present more of a challenge as they break out into ugly goblins that need to have both wings and body destroyed before they disappear completely. Simple shooting off the wings results in a Phoenix-like destruction as another egg appears on the screen.

This is followed by other waves of eggs in different formations that pass either more difficult to shoot down and occasionally the creatures fly up from below to catch you unawares. If you manage to survive this screen, you are soon offered the opportunity to end the level by hitting the ship.

In spite of a few reservations when I last played the game, I can see that Dennis Scott has additive potential, although it's hardly the most innovative program of the year.

John Rosevear



Laser racer

Program: Timo Sundt, Microcom 41, Tiverton Road, St Austell, Cornwall PL12 8JE, Price: £2.99

THIS IS a graphic adventure game that is in some ways similar to Touchstone (also from Microcom). The initial stage gives you some of the items and treasures you may need on your way toward the castle as you attempt to collect a quantity of treasure.

There are many different locations in which the game is



played, the difference is that the locations are not reached by traveling logically from one to the next, but by entering

Cobble up

Program: Beck Tech, Interactive Software, 54 London Street, Paisley, PA1 4SG, Price: £19.95

CODE it here! — Cobble Up is the name of the latest game creation from Chris Andrew of Interactive Software. Developed exclusively for the Amiga, this £60 per copy CD-ROM high-resolution graphic game follows the fortunes of our hero Eddie as he attempts to rebuild Mayhem in his home-torn kingdom. In an attempt to find the keys to the castle door, he will have to battle through a map showing the extent of the maze, as well as



dots of blood would be needed to top up his energy reserves (not constantly). There are also instances of previous visitors to top Eddie's strength and status in his path to victory. Win...or...completely...



little time portals in the second frame, and progressing through different stages. You have a laser with which to protect yourself against the nasty things that live in the maze, but you are also racing against the clock to reach a key hidden somewhere in a tunnel that leads you back to the start with the treasure.

Playing this game necessitates a lot of Joe San Wray on the Spectrum, although some location later on move them in white screens and would thereby tie the left or right arrow keys to your thumbs. Each time the game is played you may move where you like to reach the keys and treasures in less time and maybe explore more places.

This game involves many skills, not just fast joystick fingers, and should appeal to a wide range of users.

John Rosevear



although these can be overcome with care. There are also other measles lying in wait, but I won't depress the reader of this review by mentioning them here. Unlike some games that are so fiendishly difficult that the review is likely to scare away would-be purchasers, this game can be played in its early stages at a safe leisurely pace but there is more in store!

There are no less than four modes of increasing complexity through which Eddie must be guided using the cursor, or other user definable keys. Complete an task and answer the question on the computer and you stand a chance of winning a C64 disk drive system.

However, the most remarkable feature of this game is its three-dimensional display — some impressive changes in perspective as the more roundabout taking a bird's eye view of Eddie's progressional in and out of the rooms.

One minor quip — a physics option would have been welcome but removed as a simplified adventure at a reasonable price.

Gordon Lee



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THE CHIP SHOP

Keith and Steven Brain put you in touch with the Chip Shop with a look at two Basicode programs

ONE OF the current growth areas in microcomputing involves linking users together into various forms of networks, where they can transfer information and programs between their machines. While the reasons involved are of the same type as is relatively simple, but trying to get two different machines to converse can be rather like working for AGA!

On the radio

Much has been written about Prestel and the Teletext systems by which you can buy programs via your telephone and services such as Telecom and CompuServe, but the developments in transnational computer programs due to the last by radio wave have had much less exposure. There are in many ways more interesting and exciting, not least because such programs as it have anyone who has a good old-fashioned television.

Those of you who know to the BBC's regular Chip Shop program will probably already know the scope and purpose of the Basicode system, but for those who seem more audio orientated we will briefly explain its development.

Way back in the dim dark beginnings of home radios (1978) the Dutch domestic radio service — Nederlandse Omroepzending (NOS) — first experimented with transmitting a computer program over the air. This presented initially successful and they therefore proceeded to regularly transmit programs on their weekly Radio-Hobbyist program. Some readers may still remember a test transmission made by the BBC TV "Tomorrow's World" program consisting of short Apple and Z80P programs.

Although the transmitted audio tones could be received accurately there were still a number of problems — not least of which was the fact that ordinary listeners complained about the terrible "Warbler" effect they seemed to be receiving. More seriously the value of the transmissions was only tested since almost every machine had a different program interface so that any particular broadcast was only potentially useful to a small group of people (this will be obvious to anyone who has listened to the various weird and wonderful tones produced by tapes for different machines). In addition it is not enough for the receiver to be able to recognise that a signal is arriving at its cassette interface as it must be able to translate it to audio rate and a machine-readable format and then use it as a Basic program.

Although Basic is often seen as the

computer equivalent of English, its dialects are so many and varied that it reminds us of the quotation "England and the USA — two nations divided by a common language". Although it is a relatively simple matter to transmit data from one computer to another by the RS232C protocol this does not automatically provide conversion between different dialects of Basic. Even where a listing of the same program on different machines uses the same code, the internal machine related P-tokens may be different.

A Dutch radio amateur named Kees Polkens came up with the idea of a new independent code system which could be both "read" and written by a whole range of home computers. In this way a single broadcast could be simultaneously used by a range of machines. This idea was taken up by an interested group of users and thus Basicode was born. The system is often described as "Computer Esperanto" but as Esperanto is an artificial language which has had rather limited success whereas Basicode is essentially a subset of Basic with a restricted syntax, yet no less than Polkens' original system it has its tokens.



Barry Newman, president of Radio 4's Chip Shop.

Further developments of the original idea have produced improvements and expansion of the system which has now passed through BASICODE 1.0 and BASICODE 2.0. The system has attracted international interest and in addition to the Dutch broadcasts Basicode programs are transmitted in the UK, USA, Canada, Australia and throughout Europe.

To use the Basicode system you need to buy a special Basicode translation program for your computer. The major source of these is the BBC's Chip Shop program through Broadcasting Support Services. The new BASICODE 2.0 package provides a single tape containing suitable programs for no less than 13 different machines including at least the Dragon 32 and 64. Providing the main gallery of programs

on a single tape provides good value for money and is surely the Dragon version is the first program on side 2, so that it is easy to locate. In addition to the tape a comprehensive 21 page manual is provided which gives a good introduction to all aspects of BASICODE.

The standard of this documentation is good and should reduce need software and hardware manufacturers to scratch and scratch. Not only are the contents of the manual of BASICODE explained but full details of the standard and how to write your own BASICODE programs are included.

In competition with the BBC version is an alternative offering from Mike Harry of Grovesnor Software. The current version of this only allows you to load BASICODE programs but further developments are in progress and it has a number of additional useful features which are described below.

Two bases

Two tones are used to record data onto the cassette in a baud rate of 1200. A logical 0 is defined as one full cycle of 1200 Hz, and a logical 1 as two full cycles of 2400 Hz. The transmission sequence is:

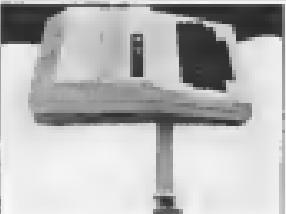
1 start logic 0
0 decimal least significant bit(s)
1 encode logic 1
and a Basic program is coded in ASCII characters, and not as the tokens used internally by the computer.

A checksum is included to detect errors in transmission. This works by performing an "exclusive OR" on all the previous bytes in the block and warns you if an error is present. If such errors are found they may possibly be corrected by LISTING and EDITING the converted programs. Once a program has been transmitted to Dragon Basic it can be saved and RUN at the normal rate.

Both the BBC and Grovesnor packages are machine-code routines coded by the user. CLOAD and LOAD both run in the Dragon 32/64 graphics pages. As they start on page 2 they do not interfere with Dragon OS9 and other programs can easily be transferred to disk.

As the graphics pages are occupied the normal screen enhancers such as "Barn Owl Writer" or "Gnome" cannot be used at the same time as BASICODE (although they can usually be used in conjunction with converted programs).

A number of standard Subroutines are an essential part of Basicode and the functions of these are included as part of the translation program (standard). They are



Versatile interfacing

Brian Cadge looks at a simple interface from NCI Electronics

SHOOT-PIECE is definitely the key word to this interface from NCI Electronics. A short duration of pulses with a period of the 1/6 mark (~20µs) will pull the printer output of the Dragon.

Clear documentation

The idea behind the interface is to allow users to experiment with controlling simple external devices such as led's, relay modules or relays to drive larger devices. You effectively get eight input lines to use controlling up to eight independent devices by controlling. Very plain documentation is provided, which includes an application example which drives four led's and four relays.

Accessing the interface is very simple, either from Basic using PRINT#2 or from machine code by calling the pointer \$C000 routine at #40000.

The main component of the interface is a small chip which houses an eight bit latch — similar to one type of memory.

This means, when a value is put on the input of the latch and the system is clocked by the strobe connection from the Dragon, the output side of the latch keeps on the new value and except if there will the chip is clocked again. This has the effect that the output is a steady configuration of '1's and '0's even though the input is

constantly being changed by the Dragon doing other tasks, such as reading the keyboard. The STABIL line lets the Dragon keep at "Ready" as the computer doesn't hang up when you attempt to send data to the interface.

The possibilities for using the interface are numerous — for example, the Dragon could control the working of a model railway, the engine points and so on and all this can be done using the Timer function of Basic. As the maximum load current is only 200mA it would probably be necessary to wire most operations through relays. The circuit would be a simple one as shown in figure 1.

Very little electrical knowledge is needed to get this circuit working and the product is really ideal for anyone who wants to dabble in electronics, but is not sure enough to buy DSO's or a lot of IC's interface. The interface costs £14.95 and is available from NCI Electronics, 13 Bedford Square, EC1W 9AF and HHS MAP.

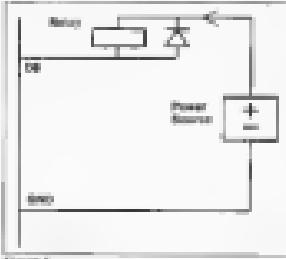


Figure 1

BACK TRACK

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Tel (0734) 591578

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Snakes alive

A full-thrilled snake game by Andrew Woyciechowski

THIS IS A machine code game in which you control a pig hanging plates around a maze using the right joystick. Every time a pig is eaten you gain 10 points and the score grows longer. If a screen is cleared a bonus of 100 points is given. On every new screen the pig's position is set and the difficulty level increases.

The empty leaves and number of insects are displayed at the top of the screen. If you typed in 10 leaves or you have pointed your mouse cursor over your tree leaves. Press the left button to plant the seeds.

To load the program first type in the Basic program (listing 1) which draws the maze and characters. Run this program and save the screen to tape using

Machining costs (contd)

Search your Dragon file then open again and type in the hexdump code listed below. In Data1 all the bytes from listing 3 into DATA statements from the 100 onwards. On running the program check each number with the numbers printed on

The right of listing 3. If the numbers match then Major 10 bytes are correct. If they do not match check and correct the **DATA** subsection before proceeding.

When the machine code has loaded correctly load in the screen using
LOADB65 SCREEN

Then save the complete program using
OS4/EM (SAVE), 1600, 11000 5500
Switch off and on again and **LOAD/M**. To
run the program type **RSSC**.

It is probably a good idea to assess both basic programs in view of this answer.

A complex, multi-level maze with various paths and dead ends. The maze is composed of a grid of walls and openings, with several levels and hidden paths. It is designed to be challenging and requires careful navigation to find the way out.

Chapman 21

FOR THE DRAGON 32: ACE HIGH (MK 2)

MACHINE GUN WARFARE IN THE SKY

DESCRIPTION — The latest sophisticated game from the creators of ACE HIGH, featuring massive numbers of aircraft flying over complex landscapes. You must fire your cannons and destroy the enemy aircraft by shooting them down, or shoot down your own if you get hit. It's a fast, action packed game with lots of fun. The end of each mission has a summary of all the damage done. You can also play against the computer, or have two players compete against each other. Includes a manual and disk label.

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The sound is very good in-
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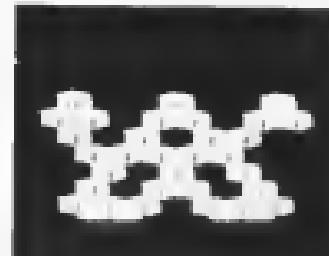
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Fast moving and addictive —
highly recommended.
*Which Micros and Software
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Dragon User

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Excellent machine code
programs for the Dragon.
Personal Computer Review



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- * selectable start point
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在這段時間，我開始對自己有了一點了解。我發現自己其實是一個很溫和、很平靜的人，沒有過多的喜怒哀樂，這讓我開始對自己的人生有了更多的思考。我開始閱讀更多的書籍，學習更多的知識，努力提升自己的素質。我也開始積極地參與社會活動，為社會貢獻自己的力量。我開始明白，人生並不是只有工作和家庭，還有許多其他的意義和價值。我開始更加珍惜自己的時間，努力追求自己的夢想。我開始相信，只要我們肯努力，肯堅持，就一定能夠實現自己的目標。

the first time in the history of the world, the people of the United States have been called upon to decide whether they will submit to the law of force, or the law of the Constitution. We consider the question to be, whether the Southern Slaveholding States have a right to secede from the Union; and if so, whether the Federal Government has a right to interfere with their slaves? The former question is the only one which we have to consider at present. The second question is of great importance, but it is not now before us.

在於此，故其後人之學，亦復不能無遺失也。蓋學者之於其事，必有得失，則其傳之者，必有遺失。故其後人之學，必有遺失也。

卷之三

在這裏，我們將會遇到一個問題：如果我說「我喜歡吃蘋果」，那麼我喜歡的不是蘋果嗎？這就是所謂的「自指」問題。

He had been a good man, and I was sorry to see him go. He had been a good man, and I was sorry to see him go. He had been a good man, and I was sorry to see him go.

the first time I had seen him, he was a tall, thin, dark man with a very pale face, and a very pale, thin, nervous hand. He had a very pale, thin, nervous face, and a very pale, thin, nervous hand. He had a very pale, thin, nervous face, and a very pale, thin, nervous hand.

卷之三

ANICIRDA

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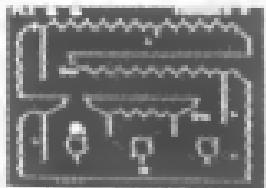
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Bookbytes

Book: Brainstorms for the Dragon 32

Author: Cassanova Ludwick
Publisher: Phoenix Publishing Associates
Price: \$12.95

PHOENIX ASKS A number of programmers covering an assortment of novel ideas, many of an educational nature which can be used to test our skills at either an advanced or beginner level. Chapter numbers, credits and including our own thoughts a couple of maps, as well as a couple of introductory chapters.

Alas mostly, I found them at primary and secondary levels that the 22 programs were fairly simple and have been converted for the Dragon from material in comprehension volumes for other micros.



Unfortunately, it is in the conversion that problems arise. In order to use the characters set in the hi-res mode most of the listings contain one or two different sub-routines each of the two converters having used his own [different] routine. The length of the listings cause them to become rather sparse if they had agreed to use just one routine throughout, and had listed a procedure at the beginning of the book, rather than repeating it in full in each program.

Indeed a number of the programs would have been as effective — and much simpler — in the resolution presented, and one or two might well have been omitted altogether. In particular, a word-clustering routine which turned out rather disappointingly to be

an over elaborate word matching exercise.

Illustrations which do not always match the listings, a number of hypographical errors and some rather poor grammar give the impression of a hasty put together book. In particular the author recommends that the REVAL statements be omitted to increase speed. My advice is don't do this. MUDOS and GOLDBLIT are addressed to these lines and without them the programs will not run at all.

—Gordon Lee

Book: Enter Basic 80 games for your Dragon

Authors: Tim Hartnett, Alan Blumkorn, Roger Bush, Robert Young
Publisher: Phoenix
Price: \$12.95

THESE! ARE games to suit every taste in the book by Tim Hartnett and friends, ranging from "Astroto" to "Adventure, Climbing" to "Simulation" play. Each program has a page or so of introductory text which explains how to play and how the program works. The listings are taken directly from the paper and are very clear so there should be no problems with hypographical errors which have plagued books such as this in the past.



As usual, the quality of the games varies considerably but overall the standard is quite high and many games utilize the Dragon's high resolution graphics system well.

An accompanying (invaluable) described as well as a source

of cheap games using in these programs, will help you learn much about your computer and how to write programs. There are 21 programs altogether as well as useful appendices on creating interesting graphics and error trapping. There is also a glossary of Computerese at the end of the book.

The Great Book of Games is of the quality we've come to expect from Tim Hartnett and is \$12.95 represents very good value for money.

—Gordon Lee

Book: Dragon Machine Code

Authors: Robin Jones and Eric Dowell
Publisher: Phoenix
Price: \$12.95

THIS appears to be a third generation of computer books on the market. The first was the "Twenty Tremendous Games for your" — then when the publishers realized that people didn't get much satisfaction playing in programs without learning from them, they produced scores of "Learning to program you"

—where they explained all the usage and added nicely disguised re-written blocks of the manuals for the subject matter.

Also included was a breakdown of the programs written in totally different used to the rest of the book making it impossible for the beginner to understand how the programs work, but allowing him or her the satisfaction of the pleasure (albeit) assembly learning experience provided by such books. That new millennium appears to be showing some maturity in a few aspects. —Programming Machine Code on you!

The book that is the subject of this review appears to have a strange blend of the amateur and the seriously minded. The reason for this is I do not know the average intelligence quotient of its readership. I have been programming in machine code now for a long time, but I found some of the routines that were being used difficult to grasp. This is surely a test of the test not explaining the listing in enough clarity.

The book contains a reasonably good introduction to programming for beginners and the authors, Robin Jones and Eric Dowell have avoided generalization most of the time. The book provides an reader with a machine code monitor and a good choice is provided in high resolution graphics in creating a machine code routine to write and on the high-resolution screen of a monitor to program that up in by 24 character resolution. This alone makes the book worth consideration.

Dragon Machine Code



Study though the book has some shortcomings. Firstly far too much emphasis is put on hand coding because say the authors, assembly and hex code, there is nothing more fulfilling to a beginner than a series of letters and numbers. Also very little help is given as to why things work, especially when dealing with graphics modes. Tables are given but the descriptions do not help the user to investigate. Sound is not mentioned at any point and binary Codes, Codes appear to have disappeared from the face of the earth, earth.

All things considered, this is a good book to consider if you want to program your Dragon in machine code. However in my opinion, the authors, Zork and Rassentel produce books in a better class and this book is not Dragon specific enough to make it a worthwhile purchase over them. See before you decide.

Jesse Orbaum

Dreaming up Dragon designs

David Sam gives you the wherewithal to create your own designs

MANY GAMES and other programs can be greatly improved and made more interesting by the addition of some good graphics. This is difficult to achieve purely by adding a few graphics commands together and, by trial and error, finding the correct numbers. Very often a basically good game is ruined by poor graphics.

Design is a comprehensive program that enables pictures, backgrounds and prints to be easily and easily drawn. It allows you to access all of the Dragons excellent graphics capabilities, and since it is normally running full screen it has no screen.

On this version only the upper case letters and numbers are supported but other characters can easily be added in the rastergraph module of the program. The program itself consists of a main loop from which the command modules are called. They allow easy debugging and easy extension. Each module is independent and can therefore be modified without difficulty. There are three operating modes — Inverse mode, Design mode and Text mode.

Inverse Mode. There will be a short pause when the variables are being initialised. You will then be asked which PSCREEN you wish to work in and then which colour set. Next you are asked for the background colour.

In this colour mode the other colour defaults as the background colour while in the colour mode you are asked for the colour. The screen then goes into Inverse and Design mode.

Design Mode. The joystick draws, moving the cursor in the current foreground colour. If the left button is pressed then it only moves the cursor without affecting the background.

Variables

UDR1. Draw in the same direction as the corresponding DRAW statement.

EFGRH. Commands

O Enters inverse mode depending on the present position

S Multiplies the scale factor by one or, if zero by which the cursor moves

- Decrements the scale factor by one

SHR8 Changes the current foreground colour to the corresponding number if it is possible

P Prints the area from the cursor

positioned by the colour given after its colon.

C Draws a circle or an ellipse around the cursor in the current foreground colour depending on the parameters given.

V Displays all the variables that are user generated.

L Allows the use of the LINE statement and its options. The two points are positioned by the joystick and confirmed by pressing the fire button.

M Moves an area of the screen of a user defined size and replaces it in one of four of the PUT user menu options (including NOT). You must define the top-left corners of each screen the same way as the L command. After both of these commands the cursor is still in its original position.

T Gives the screen a tape.

G Prints the screen to a printer.

B Prints text mode from design mode.

R This is a rotate command as you can rotate the currently drawing cursor item in the background colour. The size of an area to be rotated can be found by moving the cursor around the area and by also using the V command to find the X length and the Y length by the differences between the start and end co-ordinates.

TOT Ticks. The joystick moves the character position around the screen. The fire button shows the cursor but this affects the background as a mixture between the current foreground colour and the background colour set of inverse mode if the cursor at that position is offscreen. The cursor keys tell the direction of pointing the characters.

Variables

@ Returns control to design mode.

SPACE Prints a space in the current direction.

A to Z Prints the corresponding character in the current direction.

X, Y These are the co-ordinates of the cursor.

COLOUR This is the colour set being used.

PRIM This is the colour that the cursor will draw in and the colour

of the text (i.e. foreground colour).

BACK This is the background colour chosen in inverse mode.

SCALE This is the size of the place that the cursor moves and the size of that lead corresponding to the DRAW statement's **S** command values.

ANGLE This is the current direction with values corresponding to the ones of the DRAW statement's **A** command.

The variables **X** and **Y** only are used in design mode while **ANGLE** is only used in text mode. **COLOUR**, **PRIM**, **BACK**, **SCALE** all apply to both modes. If the **SCALE** is too small then the cursor will move properly. Again, these are no delete command. You can either overwrite the characters in the background colour or else use the **/** command to blank out a character position.

Program notes

Links

100 to 199 Initial variables.

200 to 440 Main loop (Design Mode).

KEYS holds the keyboard input.

The cursor is tracked by inverting the sign at **X/T** by using the PUT statement and then repeating the process leaving the point the same.

Inverse Mode.

Change the foreground colour.

Text Mode.

Control loop.

Joystick commands.

Check for accumulated characters.

Draw numbers.

Draw letters.

Clear screen.

Increases **SCALE**.

Decreases **SCALE**.

Move cursor and draw in foreground colour unless blank movement is specified.

Convert the joystick input for drawing.

Find the area around the cursor.

Use the LINE statement.

B&H

Christmas Shopping List 1984

If you want to buy a Christmas present (or get someone to buy you one!) or just want a good-value program you don't need to look further than this page.

Remember! If you are not satisfied with your game or games just package them up and post within 10 days of receipt and we will send you a full refund of purchase price.

PUB CRAWL.

Has the last night before you trip to the pub? Well here's a game that makes the pub (and games) crawl! You'll need courage to travel through the towns and villages home without getting eaten alive or arrested. The more you drink the harder things get as the traffic gets thicker and the police come out at more times. A quick buyer may save themselves and give them greater gains. Hellions sound high above strategy. A separate instruction booklet is included making the game of colour high resolution machine-computer it's ready when you are too!

Another superb Dragon Game — originally in Macintosh media print action involving sound effects. *Popular Computing Weekly*

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A highly interesting game for all the family! *Home Computing Weekly*

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color screens have end depth gauges with 3D zone displays of information and icons. Realistic discussions and sound effects alongside identification sheet home screen display. All of these and graphics reward the player the high score means this program is masterpiece. TRY IT!

PROTECTOR

Somewhere on the edge of the galaxy lies a planet threatened with invasion of alien race, you are the sole D.F.O.D.C.R. of the human population as you protect the world with your actions to insure and destroy before they carry off all your citizens to who knows what fate in their master and protect your the planets surface.

Hall of Fame and Best of Show nominations.

GALACTIC RAIDERS

You control an army like these raiding ships. The mission comes on the screen, always of first, but holding up to fighting battles — if you are able to destroying them. When after winning you can gain if you can score over number ten — impressive if you survive them too!

Hall of Fame and Best of Show nominations.

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In this a charged fast action M.C game, you are trying to escape the monsters that want to eat Albert the baby. To get you, if you catch him there is a hole. What you have done you must leave them on the hotel before they get angry and turn into T.S.Y.C.H.O.S. — Escape out to the C.O.U.N.D.R.E.S. — if they appear just single rapidly to survive. They will be of much use.

Hall of Fame and Best of Show nominations.

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2. **Who is eligible to participate in the study?**
Eligible participants include adults aged 18-65 years old who have been diagnosed with major depressive disorder. Participants must be willing to take part in all study procedures, including weekly visits and telephone follow-ups.

3. **What are the inclusion criteria for the study?**
Inclusion criteria include having a diagnosis of major depressive disorder, being between 18 and 65 years old, and being willing to participate in all study procedures.

4. **What are the exclusion criteria for the study?**
Exclusion criteria include having a history of suicidal behavior, being pregnant or nursing, having a history of substance abuse, and having other medical conditions that would interfere with participation in the study.

5. **How long will the study last?**
The study will last approximately 12 weeks, including a 4-week baseline period, 8 weeks of treatment, and a 2-week follow-up period.

6. **What are the treatment options available in the study?**
Participants will be randomly assigned to receive either the new treatment or a placebo. Both groups will receive weekly doses of the assigned treatment.

7. **What are the potential risks and benefits of participating in the study?**
Benefits of participating in the study include receiving free treatment and potentially contributing to the development of a new treatment for depression. Risks include experiencing side effects from the treatment, such as nausea, drowsiness, and headache, and having to attend weekly study visits.

8. **How will the results of the study be used?**
The results of the study will be used to evaluate the effectiveness and safety of the new treatment for depression. The findings may be published in scientific journals and presented at professional conferences.

9. **What happens if I decide to withdraw from the study?**
If you decide to withdraw from the study, you will be free to do so at any time. Your participation will not affect your care or treatment.

10. **Will my personal information be kept confidential?**
Yes, your personal information will be kept confidential and will not be shared with anyone outside of the study team.

卷之三

3000 IF KEYB=11 THEN KEYB=1011:GOUB FWD-0.5:SWAPY SWAPX SWAP Y TO SWAPZ
3040 IF KEYB=1011 THEN KEYB=102:GOUB FWD
3080 IF KEYB=102 THEN KEYB=101:GOUB FWD
3090 IF KEYB=101 THEN KEYB=102:GOUB FWD

30900 IF KEYB=KEYB+12 THEN DEPAFRC +STEPBACK +FWD DO-F TO SWI NEXT DO DEPAFRC
STEP FWD 1 REH FLASH CURSOR
30900 IF KEYB=1 OR KEYB=KEYB+12 THEN " "
30900 GOUB SWAP

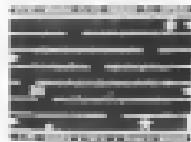
30700 IF KEYB=01 THEN DEPAFRC +STEPBACK +FWD 0.5
30800 IF KEYB=0001:1 THEN DEPAFRC +STEPBACK +FWD 0.5
30900 IF KEYB=1 THEN DEPAFRC +STEPBACK +FWD 0.5
31000 IF KEYB=01 THEN DEPAFRC +STEPBACK +FWD 0.5
31000 IF KEYB=0001:1 THEN DEPAFRC +STEPBACK +FWD 0.5

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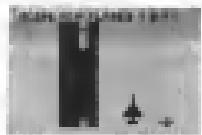
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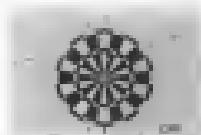
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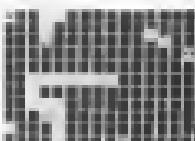
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Screen Edit

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This PC-Game-M is a full screen editor to edit graphics characters and allows you to create graphics screens to be loaded in before your own program. The program is easy-to-use provided the instructions are read carefully. This way is much better than writing a program with endless data statements full of numbers to set PC-Game-M (PGM) laid out on the screen.

You can create eight screens at once and move them away without losing all eight or just the selected screen to save band. There's also a graphic library for editing, choosing any character in any design, size and colour. Images inserted into the screens quickly and if they don't go exactly where you like, the zoom function is useful.

Recent news

The following instructions are to help you use the program efficiently and may sound complicated at first but as you use the program they will become clearer.

THE BOSTONIAN — BOSTON'S LEADING NEWSPAPER

Answers at high resolution

Clear key — Clears the screen to the background colour chosen (default = white).

B — Background or border shade. Allow you to choose any colour background (including multi-coloured) or any character border (in any colour).

C — Character choose Allows you to pick any character from a set by using left and right arrow keys to choose character. Press spacebar when you have selected the chosen character.

Q — Draw character (chosen in 'Q') on screen when you move around the screen. This also allows you to rub out by using 'Q' (see Q).

B — Break This down is actually wise but is used to get out of DRAW mode. This changes the cursor back into a "spike". You will then be able to move around the screen without actually doing anything.

F — Paused setting. This will let you out of editing mode and you will be faced with another menu. Follow the menu's instructions carefully.
G — Get rid of character! (usage if you like). This is only effective in DRAW mode and erases characters as you move. Two G's cause the wall and floor to disappear.

mod. Wang "E" D G you can draw pictures very quickly. draw broken lines and so on.

1 — last command. There is a memory that you can look at while editing that should jog your memory if you forget any commands.

M — Move cursor. This allows you to shift the entire screen (except borders) to either the left or to the right. For example if you

E — Screen charge This gives you a choice of two coloured screens. These are great fun as well as educational (Options D, H).

— Test on person. This allows you to

piece text on the screen in inverse video or normal. Any text in inverse video must be placed inside " " e.g. HENRY WOZ ERIC would be placed on the screen in inverse video.

Should anyone have any problems with the program I would be glad to help and assure you that there is a lot of easy-peasy learning to be done before you can use it so I will gladly share the program for you for a small fee if you would like. E-mail me at JLH@AOL.COM or call me at 404-255-2333.

```
10 ****
20 ** BOREDIT RODEN EDITOR **
30 ** *** *** *** *** ***
40 ** *** WRITTEN BY ** *
50 ** WAYNE J. SMITHSON **
60 ****
70 ** UC11784 W.J. SMITHSON **
80 ****
90 ****

100 GOTO130
110 IF EDD="D" THENY=2
120 RETURN
130 PCLEAR99:CLEARS00,319999:SH=128
EDD="E":CH=143:Z=1024:SC=1:SOUND1
140 POPENH7PF,E,81 :POKE$H7FFF,$H00
SUBSUB6U
140
150 CLS:CLS: TO NAME SURE!
160
170 CLS:PRINT#04,51RINDS\32,421;""
+ BOREDIT - SCREEN EDITOR. *****
```

```

TTEN BY WAYNE J. SMITHSON **1:BTIM
OF "2,421+SCREEN0,1
150 FORM=1:TOS1 EXEC32000:NEXT:PRINT
0004,"SCREEN EDITOR BY W.J. SMITH
SONN":SCREEN0,1:FORM=1:TOS1 EXEC32000
:NEXT:FORM=1:TOS1:PRINT8400,"":EXEC
32000:NEXT:GOSUB770:GOT0500
190 EXEC32100:CLS:PRINT844,"DO YOU
WANT - ",111:SCREEN 0,1":,"121 S
CREEN 0,0":,"ENTER 1 OR 2--":,
200
210 " SEE YOU JERRY"
220 " I BE YA MUN TO THE HEED"
230
240 OF=INKEYS:IFOF="1" THENEXEC021
250:SCREEN0,1:5-1:RETURN ELSE IFOF=
"2" THENEXEC02150:SCREEN0,0:5-1:RE
TURN ELSE240 250 EXEC32100
260 CLS:PRINT844,"DO YOU WANT - ",1
111 BACKGROUND",,121 BORDER",,1
"50 BAD TO EDIT FERR",,"OPTION
---",,111:PRINT844,"Continued on page 3

```



```

270 DS=DE EYR1:IFDN="1" OR DN="3" T
HENZ2=1 ELSEPRINTUP;FDN="3" THENEX
CEC2150:GOTOS10
280 IFDS="1" THENZ20
290 CLS:PRINT"background set";PRIN
T"THIS IS THE # KEY WHEN YOU SEE THE
BACKGROUND THAT YOU WANT" N.
300 destroys present screen :GOSUB7
310 FOR=0TO8;H=0:CLS:PRINT$480,
CLS;
320 H=N+1:DS=1:N(Y)=1:FDN="3" THENZ
20 ELSE IFN=100 THENZ20 ELSE NEXTI
8=PRINT$80, "1":FORM=1:GOTO$80:STEP
16:PRINT$STRND(132,N+1)NEXTI:FORM=2
330 FOR=433STEP-1&PRINT$STRND(132,N+1)
NEXTI:PRINT$80,CH(15)+N#0
340 DS=1:N(Y)=1:FDN="3" THENZ20 ELS
E N=N+1:TPN=100 THENZ20 ELSE GOSU
350 W=0:CLS:Y=0:PRINT"YOU CHOSE "
C(N):FORM=1:GOTO$80:STEP16: P
RINT$STRND(132,N+1)NEXTI:FORM=3:GOTO
1:STEP=1&PRINT$STRND(132,N+1)NEXTI:Y=0
360 PEEK(111111):GOTOS10
370 CLS:FORM=12970143:PRINT$STRND(
132,N+1)NEXTI:FORM=1:GOTO$80:STEP16
380 FOR=1:N(Y)=1:PEEK(0):FORM=10247
GOTOS10:PEEK(0)+16
390 DS=1:N(Y)=1:FDN="3" THENZ20 ELS
E NEXTI:FORM=1024701535:POKE,N,PE
EK(0)+112
400 DS=1:N(Y)=1:FDN="3" THENZ20 ELS
E NEXTI:GOTOS20
410 Y=0:GO:PEEK(0):SCREEN,0,CH(15)
2150:FORM=1024701055:POKE,N,80:POKE
N+80,80:NEXTI:FORM=1:GOTO155:FORM=1055
701513:POKE,N,80:POKE+N,1:80:N
EXTI:GOTOS10
420 EXEC32100
430 CLS:PRINT$64,"ENTER YOUR LINE
OF TEXT PUTTING '+' ROUND ANY BITS
THAT WANT TO BE inverse video":LI
N(EINPUT":TEXT):"1"
440 PRINT"WHEN YOU GET TO WHERE YO
U WANT TO PUT THE TEXT THEN PRESS
'P' FOR PUT, IF YOU WANT TO ERASE
"+:GOSUB750:SCREEN,0:EXEC32150:GO
TOS19
450 IFP="+"THEN S10 ELSEEXEC32100
460 CLS:LL=LEN(TEXT):L=LL:FORM=1:TOLL
1:IFHDLITB,N,10="+" THENL=L+1:NEXTI
ELSENEXT
470 IFX=11535 THENPRINT"NOT ENUFF
ROOM ON SCREEN FROM HERE....,TH
Y AGAIN":GOSUB750:SCREEN,0:EXEC32
150:GOTOS10
480 TBL="":EXEC32150:FORM=X+1 TO X
L+L:TFP=T1:IFHDLITB,N,10="+" THENL=L
CH(T1):FORM=1:TOLL:IF MID$ITS,N,11=
"+" THENL2=0:THENZ2=1:NEXTI ELSEZ2=0
NEXTI
490 IFZ=1 THENZ2=54 ELSEF ZF=0:THE
NIZ=0
500 IF MID$ITS,N,11="+" AND Z=1 TH
ENZ2=0:GOTOS80
510 IFHDLITB,N,10="+" THENZ2=64
520 IF NLL THENZ2=64:GOTOS10
530 C=0+1:FORM=0:ASC1(REDITB,N,11
)-22:HEX$C=0:GOTOS10
540 FTF=0:"THENS10 ELSE FORM=1 TO
LN ITB":POKE+1,N:ASC1(154 ITB,N,11
)+HEX$C:GOTOS10
550 CLS:PRINT"YOU ARE NOW IN EDITI
NG MODE...":",EXEC32040:EXEC32150
560 GOSUB110:DS=1:N(Y)=1:FDN="+" THEN
570 ELSEIIFTY=2 THENPOKE,CH ELSE PO
KE,P
580 IF DS=CHR$(123) THEN IF M>7 TH
ENCL(161):DS=PEEK(111111) ELSE DS=Y:GO
TOS20:DS=PEEK(111112)
590 IFDS="2" THENZ20 ELSEIFDS="L" G
OSUB770 ELSEIFDS="R" THENZ20 ELSEI
FD="?" THENZ20 ELSEIFDS="P" GOSUB190
600 IF DS="P" THEN EXEC32120:GOTOS1
0 ELSEIF DS=" " GOSUB1030
610 IF DS="0" THEN ED=0:GOTOS10
ELSE IF DS="E" THEN ED=8:GOTOS8
10
620 IF DS="G" THEN IF CH=86 THEN C
=HTC ELSE TE=OH:CH=85
630 IF DS="C" GOSUB1050 ELSEIFDS="
P" GOSUB1100
640 GOSUB1101 IFY=2 THENPOKE(X+P
CH,Y):ELSE IF Y=1 THENPOKE,X,P
CH,Y:0
650 IF Y=0 THENP=PEEK(X+1):POKE X,P
CH+149:Y=1
660 IFPEEK(X+41)<122 THENZ20 ELSE
IF Y=2 THENPOKE,CH:Y=2 ELSE POKE
X,P:Y=0
670 IFAC1535 THENX=8+1:GOTOS80
680 IFPEEK(X403)=223 THENPOKE,P:IF
X1024 THENX=8-1:Y=0:GOTOS80
690 IFPEEK(X403)=223 THENPOKE,P:IF
X<1535 THENX=8-32:Y=0:GOTOS80
690 GOTOS10
700 FORM=320001032069:READA1:POKE
N,VAL("IMP":A1)NEXTI:FORM=32100TUS21
161:READA1:POKE,VAL("IMP":A1):NEXTI
FORM=32150TUS21&&1:READA1:POKE,VAL
("IMP":A1):NEXTI
710 FORM=1:READB1:READC1:NEXTI:RETUR
N
720 DATA 9E,4,0,9E,9E,90,40,97,90,
9C,6,0,9D,9D,11,9E,4,0,9E,9E,
40,97,9D,9C,6,0,9E,9D,1,99,9E,
FF,87,FF,23,9E,9D,97,FF,29,9E,1,0,
30,1F,28,FC,7F,FF,20,UD,7,73,FF,20

```

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```

;ED,4,4A,2B,29,37,3F,BF,5A,2B,FD,3
?T20 DATA DE,4,0,10,BE,7F,FE,A6,80,
A7,90,9C,8,0,2B,F7,7F,BE,4,0,10,BE
,7F,FE,A6,A0,A7,B0,9C,4,0,2B,F7,3F
?40 DATA BLACK,GREEN,YELLOW,BLUE,R
ED,BUFF,CYAN,MAGENTA,ORANGE,MULTI-
COLOURED
?50 CLS=INPUT$ IFOK1="1" THEN PRINT$-
$00,"SPACER TO CONTINUE":SCREEN
0,1,0=INPUT$:IFOK1="0" THEN PRINT$-
$00,"spacebar TO continue":SCREEN
0,1,0=GOTO750
?60 RETURN
?70 EXEC32!000CLS:PRINT "#SCREEN ED
ITOR BY M. J. SMITHSON":PRINT$71,"Keyboard
command":?ONE1!03,32:FOR
N=024TO1025:POKEH,PEEK(N)-24:NEXT
?80 PRINT#10:_BORDER=SET BORDER OR BAC
KGROUND TEXT-PLACE TEXT ON SCREEN
CHARACTER-CHOOSE CHR$":?GETR
CD=ON-OFF TO ERASE CHR$, "SCREEN-C
HANGE SCREEN TO 0,1/0,0 FINISH-FIN
ISHED EDITING" LIST-LIST AT
THIS LIST"
?90 PRINT#10:DRAW SCREEN-SCREEN LEFT
OR RIGHT/d-DRAW OFF/DRAW ON",Tele-
ar-CLEAR SCREEN", "space-CHANGE CHR
$ COLOUR"
?100 PRINT"arrow keys-MOVE CURSOR":?
GOSUB100:EXEC32!501:SCREEN0,5:RETURN
?110 CLR:PRINT"--SCREEN EDITOR BY M.
J. SMITHSON","11. GO BACK TO EDI
T MODE","12. SAVE CURRENT SCREEN",
"13. SAVE ALL SCREENS (1-81)", "14.
LOAD SCREEN(S) FROM TAPE", "15. EDI
T DIFFERENT SCREEN", "16. COPY SCRE
EN$":SCREEN0,1:EXEC32!000
?120 PRINT#10,"INPUT CHOICE-->":
?130 Q=VAL (INKEY$):PRINT#10 Q GOTO
500,650,650,900,950,1000
?140 GOTO100
?150 INPUT"WHAT FILE-NME PLEASE":IF
#0
?160 IF LEN(ONE)>0 THEN PRINT"NAME TO
0 LONG, 8 LETTERS MAX":GOTO100
CLSE PRINT"PRESS spacebar TO SAVE"
?170 IF INKEY$=" " THEN GOTO10 ELSE IF
#0=2 THEM EXEC32!501:POKE1536,PEEK1
1024
?180 IF #0=2 THEN CSAVE#1,F8,1024,153
6,512:BOUND#1,10:GOTO100
?190 CSAVE#1,F8,1536,13924,12338:GOU
#81,10:GOT0810
?200 INPUT"WHAT FILE NAME (TYPE ent
er TO LOAD ANY NAME)":F8
?210 PRINT"PRESS spacebar TO LOAD"
?220 IF INKEY$=" " THEN GOTO10 ELSE CLS
DR F8
?230 POKE8477FF,8:POKEH0FFFF,0:IF P
EEK(8477FF)=256+PEEK(M81)=12200 THE
?240 PRINT"ALL 8 SCREENS LOADED IN
":GOSUB1750:GOT0810 ELSE POKE1024,P
EEK(1536)+1600000:CLS:PRINT"SCRE
EN NUMBER 1 LOADED IN":GOSUB1750:GOT
0810
?250 CLS:PRINT"YOU ARE ON SCREEN NU
MBER":PEEK(1577FF)+256+PEEK(1587FF)
?260 PRINT"WHICH NUMBER DO YOU
WANT (1-80)":
?270 Q=VAL (INKEY$):IFOK1 OR Q>8 THE
PRINT#10:ELSE PRINT#10
?280 POKEH477FF,INT(10+1536)/256+P
EEK8477FF,0
?290 PRINT"PRESS spacebar TO SEE SC
REEN":??
?300 IF INKEY$=" " THEN ?90 ELSE EX
EC32!501:FORM=0:TOPPP:NETT:GOT010
?3100 PRINT"COPY WHICH SCREEN-->":
?320 Q=VAL (INKEY$):IF Q<1 OR Q>8 T
HEN1010 ELSE PRINT#10:PRINT"TO WHICH
SCREEN-->??
?330 Q1=VAL (INKEY$):IF Q1<1 OR Q1
>8 THEN1020 ELSE PRINT#10:POOPY Q TO
Q1:PRINT" IT IS DONE 'O GREAT ONE'":
?340 GOSUB1750:GOT0810
?350 CH=DH+&1:IF CH>255 THEN CH=CH
-256:PRINT#10:RETURN
?360 EXEC32!000:CLS:NN=120:FORM=10
24TO1025:STEF21:POKEH,NN:NN=NN+1:NEK
T:AR=1050:PRINT#24,"PRESS C TO
CANCEL THIS MODE."
?370 POKE AR,74:DB=INKEY$:IF DB=0H
R8400 THEN IF AR=1054 THEN POKE AR
,175:AR=AR-2:GOT01040
?380 IF DB=CHR$191 THEN IF AR<1024
THEN POKE AR,175:AR=AR+2:GOT01040
?390 IF DB="C" THEN EXEC32!501:RETU
RN ELSE IF Q1=>1 THEN ?300
?400 CH=PEEK(AR-32):PRINT"REMEMBER
TO PRESS THE SPACEBAR TO CHANGE
COLOUR, IT IS NOW GREEN":GOSUB1750:E
XEC32!501:RETURN
?410 EXEC32!000
?420 CLS:INPUT"PRESS C TO CANCEL
THIS MODE MOVE LEFT OR RIGHT":L
?
?430 IF LEFT#L,1=-L THEN ?440 E
LSE IF LEFT#L,1="C" THEN ?380:CL
S:RETURN ELSE IF LEFT#L,1<-L"?
THEN ?380:1:GOT0110
?440 EXEC32!501:FORM=L+103
4TO1025:STEF=1:T2=PEEK(2+NN32):POKE
2+NN32,PEEK(2+NN32)-1:NETT:POKE
1025+NN32,T3:NETT:RETURN
?450 EXEC32!501:FORM=1 T015:FOR2=102
5TO1054:T3=PEEK(2+NN32):POKE2+NN32
,PEEK(2+NN32)+1:NETT:T2:POKE1054+N
32,T3:NETT:RETURN
?460 "
?470 - TYPE "8010 500" IF YOU
?480 - SET AN I/O ERROR OR
?490 - ACCIDENTALY PRESS BREAK.
?500 "

```

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Earth system science, Vol. 201, 2004, 1–10.

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4.2 SOFTWARE

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Dragon conv

John Buckley gives the tokens and listings necessary to convert BASIC programs from the Tandy Color Computer to the Dragon 32.

THE TANDY Color Computer and the Dragon 32 are both based on the 6809 chip. They also share Microsoft Basic. When trying Basic programs on other machines there is no need to change anything for most other systems are identical. One might therefore think that a program which runs on one machine could be transferred, tape and then run on either.

However, this is not so. When presented with a tape recording by one machine when the track you send to the other like tape will load C64 but not run as you type RUN; the only thing you can get out of your memory is a system error (and there is nothing more frustrating than that).

The problem is that the Dragon and C64 use different tokens to represent Basic commands. What is a token? You ask. When you type in a basic command it is recognized by all those good little bits in ROM and, rather than storing it as a string of letters in ASCII, it is stored using only one or two bytes of memory. These bytes are the tokens which your micro recognizes as Basic commands when you RUN the program. So when you CLOAD a program via a C64 that was CSAVE from a Dragon (or vice versa) many of the tokens will be misinterpreted.

You can explore the tokens in your code by looking at listing 1. Program lines 26 to 100 POKE the values 128 to 256 into address line 10 for return of tokens. Line 78 PRINTs the values which were POKE'd.

and line 10 LISTs program line 10 with the values now represented by the census (printing Basic command). Typing GOTO 100 will cycle through the hex ten values. The second half of the program does the same thing for the two byte tokens.

A listing of the tokens for both the Dragon and C64 together with their associated comments is given in table 1. The table is in two parts. The left side lists the Basic commands in alphabetical order with the corresponding tokens for the C64 and Dragon. The right half of the table has the tokens in numerical order with the corresponding comments.

Several alternatives

Once you have the tokens there are several alternatives regarding what you can do with them — you can put them in Delta statements (LOAD) from into arrays and then use the arrays as look-up tables. This would occupy a fair amount of storage space (listing 2) which, if you are only translating short programs, may not make much difference.

If you are trying to translate a program which uses up most of your available memory then my suggestion gives a free system to your advantage. I chose the memory saving method.

I set up a translation program which allowed me to input the look-up tables, print them out (listing 1) save them to tape and read them from tape (see listing 2).

```
10 DTTR 12345678901234567890
20 STEPBY#25 25 24255+PEM#25
30 FOR#1=128 TO 255 STEP#10
40 FOR#J=8703 1F1+J*255T-87100
50 FOREST#6428J .+J FOREST#7+28J,.44 NEXT,J
60CLS
70 FOR#J=STOP PRINT#1+J,.NEXT,J
80 LIST#10
90 NEXT#
110 FOR#I=128 TO 255 STEP#10
120 FOR#J=STOP 1F1+J*255T-87140
130 FOREST#6428J,.255 FOREST#7+28J,.1+J
FOREST#9+28J,.44 NEXT,J
140CLS
150 FOR#J=STOP PRINT#1+J,.NEXT,J
160 LIST#10
170 'XXXXXXXXXXXXXXXXXXXX
280 'XXX CLOAD"TOKEN" 388
210 'XXXXX ENDTRANSLATE 388
```

The program is fairly short and user friendly. The remarks will help you to understand the various aspects of the program. When the program is saved, the file appears on tape for future use.

One word of caution: the program uses a standard 16 bit Extended Basic and Disk Basic File Handling access to a Dragon disk. It will enable you to determine the tokens for the Dragon Basic language commands. For the reasons you will find in the token list for the Dragon or C64 in the last part of table 1, if you have a Dragon Disk system you can fill in the empty spots using listing 2.

Once you have entered listing 2, type RUN and select option 1 from the menu. You will receive the prompt TOKEN -nnn -ENTER (Deleteable RETURN). Use the right half of table 1 to enter the correct command which corresponds to the token displayed. When you have entered all the commands the program will return to the delta. You can either press the return to the screen or press F1 you can have it do either.

Having saved the look-up tables my next step was to get them in a more useable and compressed form. Program listing 3 did this for me. It organizes the one byte tokens into the arrays from subscript 1 through 78 and two byte tokens in arrays from subscript 79 to 112. It also reduced the token look-up table to eliminate the delta tokens. Of course, if you have the missing disk sectors you will need to save a complete list of tokens. To do this make the following changes in listing 3:

```
40 CPRINT#1001 T01100#11100
DT1100#
```

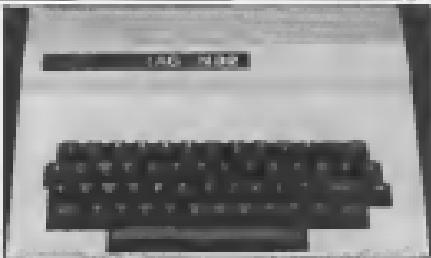
```
140 FOR#I=128 TO 255 STEP#10
150 FOR#J=STOP 1F1+J*255T-87140
160 LIST#10
```

The code used by listing 3 will be used to translate Dragon to C64 programs or vice versa. Program listing 4 does this. It needs the look-up tables and arrays T01100 and DT1100 (presubscripted through 60110) and the end point for conversion (either beginning of the conversion program DT1020C (line 80130), and merges the program to be converted with DT1020C (line 80140). Using a program we will discuss shortly (line 80150 through 80180) keep an interest of the programs progress.

The actual conversion takes place in the subroutines starting on lines 80200 (two byte tokens) and 80220 (one byte tokens). Lines 80200 through 80240 use through

**Tandy
Enter**

any to convert Tandy programs to the Dragon and vice versa.



the program to be converted one byte at a time until it finds a token. It jumps to the conversion subroutine (line 6000) if needed to get the corresponding token and then Pokes it back into the program being converted (line 6030).

If you are using a disk based system you will have to make the following changes to index.s

00000000000000000000000000000000

60328 FORM-11C87
Listing 4 is set up to represent a Dragon program to run on the C64. If you have a Dragon and want to convert C64 BASIC programs change program line 60328 to
60328 (10416=16, THEN 1040=1041)

PART II
Now that we have all the pieces we need to put them together and make it work. One additional tool is needed - a merge program. Using it does that for us. It is a machine language program which allows you to read the component programs into the pack of the program file to be converted by your macro. But it doesn't have to necessarily be one.

REFERENCES

Here are the steps to convert your program CLOAD using 6502 type ROM. You will receive the payload line #4. Make sure none of the programs lines in the program to be converted exceed \$0000. If they do use RENAMUM to convert the section CLOAD in the program to be converted and then enter C2E C2D2H if you still see a lot at this stage of it you will get from your friendly green eye will be C4. Don't despair your program has not been lost, only obscured by the conversion overhead.

marked by the program pattern:

CLOAD DATA000 and type HMM. The conversion program now scans over and displays the sheet and end address of the programs being converted as well as the current address. Being converted, assume you have the logic table C000H on page from listing 3 since the conversion program will check looking for it at address 0000H. If a problem does occur the program will stop and give you an error message. When the conversion has been completed the conversion program will delete itself and give you a prompt to CLOAD the converted program.

Download the complete program

Document Page

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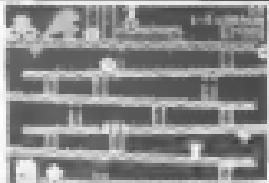
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ADDITIONS REQUIRED

PART II contains **Answers only** sections at Twenty three



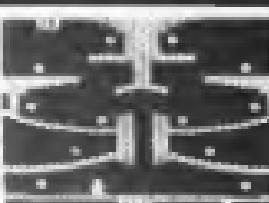
Tape 5B

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...and now it's time to consider getting some more information about the eggs and hatching and grab the I-40 and fly the road before your experience goes in, but watch out this, KATIE, and as the world and your imagination re-assessing eggs at. You!

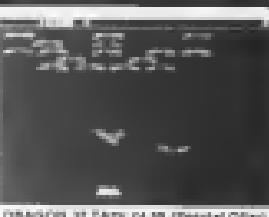


Page 68

DE
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TANDY COLOUR
32K
NOTHER REQUIRED

LEMON SODA

Different systems of free electrons and their charge transfer coupling with the exciton will find the contribution still insignificant for the case of the two-layer system.



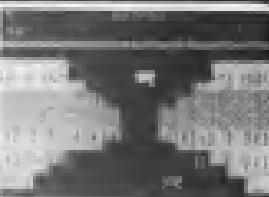
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marks will save some memory. You will still have to load the merge program which follows the same steps outlined above but you will be saved typing in several other programs.

Einheit 1

Even if you can't type in savings, though, it you should look them over since they do contain some interesting aspects which you may use in the future. Remember to change any needed numbers.

6000 IP T283-TE THEM TK-TD94
-TDT94

10 of 10

If you have problems with the books, write to me at 28 Brown Park, Teddington, TW11 1QH. Include a S.A.E. and I will respond by return mail. If you want a free copy of all the programs send £5.00 by cheque or money order made payable to Michael. Please specify if you want Dragon or Oracle. ■

• 100 •

ANSWER

COMMAND	CODE	DECODER	FIELD	286	8
			FILES	286	8
TOKEN			FIX	255152	255148
			FN	254	128
			FOR	128	128
			FREE	255163	0
			GET	195	179
PBS	255138	255138	GO	129	129
RND	176	228	HICK	255156	255149
PGC	255138	255144	IF	133	133
PTH	255148	255139	INKEYS	255148	255154
AUDIO	151	163	INPUT	137	137
SCREEN	221	0	JOYSTICK	255141	255147
CHRS	255139	255145	INSTR	255158	255157
CIRCLE	134	177	INT	255129	255129
CLERP	147	158	KILL	210	0
CLORD	151	153	LEFT#	255142	255156
CLOSE	154	156	LINH	255135	255141
CLS	159	160	LST	146	142
COLOR	193	176	LSET	195	197
COHT	147	149	LINE	197	178
COPY	222	0	LOAD	211	0
COS	255149	255137	LOC	255164	0
CSAVE	152	154	LDF	255165	0
CYN	255152	0	LOG	255153	255104
CATR	134	134	LSET	212	0
DEF	195	152	MEM	255147	255155
DEL	161	165	MERGE	213	0
DIN	140	142	MIDI	255144	255152
DIR	205	0	MOVE	255166	0
DSKINE	226	0	PUTON	159	161
DSKINF	223	0	NEW	158	151
DLORD	282	185	NEXT	137	129
DRAM	198	181	NOT	168	192
DRIVE	207	0	ON	136	128
DX2039	224	0	OFF	170	194
EDIT	102	167	OPEN	153	155
ELSE	132	132	OR	177	231
END	138	138	PRINT	193	178
EOF	255148	255146	Continued on page 10		
EXEC	162	164			
EOF	255151	255139			

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short? November 1980).
—One of the few recent films I have seen, better than the
review! (CW December 1980)
—One of the best recent ones.

卷之三

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POERR	192	173
POLS	199	171
PCOPY	199	162
PEEK	255134	255146
PLAY	261	194
PRCODE	266	183
POINT	255145	255159
POKE	145	147
POS	255154	255131
PPPOINT	255160	255159
PRESET	192	173
PRINT	125	125
PSET	189	172
PUT	197	199
REND	151	151
REN	196	196
RENAME	214	8
RENUM	263	186
RESET	157	159
RESTORE	143	144
RETURN	144	145
RIGHTS	255140	255133
RND	255132	255132
RSET	213	9
RUN	142	143
SAVE	218	8
SCREEN	191	174
SET	156	159
SCH	255128	255128
SKIPP	163	165
SIN	255133	255136
SOUND	169	162
STEP	169	193
STOP	145	146
STRIKES	255151	255169
STRG	255198	255142
SUB	156	189
SOR	255155	255133
TAB	164	187
TAN	255156	255136
THEN	157	191
TIMER	255159	255159
TO	155	169
TROFF	194	169
TRON	189	163
UNLOAD	219	8
USING	295	295
USR	255131	255161
VBL	255137	255142
WRITIE	255157	255156
VERIFY	218	8
WRITE	217	8
*	171	195
-	172	195
S	173	195
/	174	195
D	175	195
B	176	201
A	178	201
.	180	204
,	181	201

1000-2 shows the latter is more prone to early onset and

1. **What is the primary purpose of the study?**
The primary purpose of this study is to evaluate the effectiveness of a new treatment for depression compared to a placebo.

2. **What is the study design?**
The study is a double-blind, randomized controlled trial (RCT).

3. **Who is eligible to participate?**
Eligible participants are adults aged 18-65 years with a diagnosis of Major Depressive Disorder (MDD) who have not responded to previous treatments.

4. **What are the inclusion criteria?**
Inclusion criteria include: age 18-65 years, MDD diagnosis, no response to previous treatments, and informed consent.

5. **What are the exclusion criteria?**
Exclusion criteria include: history of suicidal behavior, current substance abuse, and pregnancy.

6. **How many participants are needed?**
The study aims to recruit approximately 400 participants.

7. **What are the study outcomes?**
The primary outcome is the change in symptoms of depression as measured by the Hamilton Depression Rating Scale (HAMD). Secondary outcomes include quality of life, functional impairment, and side effects.

8. **What is the duration of the study?**
The study duration is approximately 12 weeks, including a 4-week baseline period and an 8-week treatment period.

9. **What are the treatment options?**
Participants will receive either the new treatment or a placebo. The new treatment is a combination of two medications.

10. **What are the potential risks and benefits?**
Potential risks include side effects from the medication, such as nausea and drowsiness. Benefits include improved symptoms of depression and improved quality of life.

10

COMMAND		
TOKEN	COCO	DRAGON
128	FOR	FOR
129	DO	DO
130	REN	REN
131	-	-
132	ELSE	ELSE
133	IF	IF
134	DATR	DATR
135	PRINT	PR DNT
136	ON	ON
137	INPUT	INPUT
138	END	END
139	NEXT	NEXT
140	DIM	DIM
141	READ	READ
142	RUN	RUN
143	RESTORE	RESTORE
144	RETURN	RESTORE
145	STOP	RETURN
146	POKE	STOP
147	CONT	POKE
148	LIST	CONT
149	CLEAR	LIST
150	NEW	CLEAR
151	CLRD	NEW
152	CSAVE	DEF
153	OPEN	CLRD
154	CLOSE	CSAVE
155	ULIST	OPEN
156	SET	CLOSE
157	RESET	ULIST
158	CLS	SET
159	MOTOR	RESET
160	SOUND	CLS
161	PUT	MOTOR

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162	EXEC	1	SCREEN	1	213	ERGE	1	TT
163	SKIPF	1	AUDIO	1	214	RENAME	1	TT
164	TAB	1	EXEC	1	215	REET	1	TT
165	TO	1	SKIPF	1	216	SAVE	1	TT
166	SUB	1	DEL	1	217	WRITE	1	TT
167	THEN	1	EDIT	1	218	VERIFY	1	TT
168	HOT	1	TRON	1	219	UNLOAD	1	TT
169	STEP	1	TROFF	1	220	OKRINI	1	TT
170	OFF	1	LINE	1	221	BACKUP	1	TT
171	+	1	POLS	1	222	COPY	1	TT
172	-	1	PSET	1	223	OKRIS	1	TT
173	R	1	PRESET	1	224	OKRDS	1	TT
174	/	1	SCREEN	255128	SCN	1	SCN	
175	\	1	POLARR	255125	INT	1	INT	
176	RND	1	COLOR	255132	RSQ	1	RSQ	
177	OR	1	CIRCLE	255131	USR	1	USR	
178	?>	1	PRINT	255132	RND	1	RND	
179	=	1	GET	255133	SIN	1	SIN	
180	<	1	PUT	255134	PEEK	1	LDG	
181	DEL	1	DRW	255135	LEN	1	EXP	
182	EDIT	1	PCOPY	255136	STRB	1	SIN	
183	TRON	1	PHDDE	255137	VRL	1	COS	
184	TROFF	1	PLAY	255138	RSC	1	TRH	
185	DEF	1	DLORD	255139	CHR8	1	ATH	
186	LET	1	RENUM	255140	EOF	1	PEEK	
187	LINE	1	TAB	255141	JOYSTK	1	LEN	
188	FCLS	1	TO	255142	LEFTS	1	STRB	
189	PSET	1	SUB	255143	RIGHTS	1	VRL	
190	PRESET	1	EN	255144	RIDE	1	RSC	
191	SCREEN	1	THEN	255145	POIGHT	1	CHR8	
192	POLARR	1	HOT	255146	EHKEYS	1	EOF	
193	COLOR	1	STEP	255147	REN	1	JOYSTK	
194	CIRCLE	1	OFF	255148	RTN	1	FIN	
195	PRINT	1	+>	255149	COS	1	HEXE	
196	GET	1	-	255150	TRN	1	LEFTS	
197	PUT	1	S	255151	EXP	1	RIGHTS	
198	DRW	1	/	255152	FIX	1	RIDE	
199	PCOPY	1	>	255153	LOG	1	POINT	
200	PHDDE	1	PHD	255154	POS	1	EHKEYS	
201	PLAY	1	DR	255155	SER	1	REN	
202	DLORD	1	>	255156	HEX8	1	VARPTR	
203	RENUM	1	*	255157	VARPTR	1	INSTR	
204	PH	1	*	255158	INSTR	1	TIMER	
205	USING	1	USING	255159	TIMER	1	PPPOINT	
206	DIR	1	???	255160	PPDENT	1	STRINGE	
207	DRIVE	1	???	255161	STRENG	1	USR	
208	FIELD	1	???	255162	CVN	1	TT	
209	FILES	1	???	255163	FREE	1	TT	
210	KILL	1	???	255164	LOC	1	TT	
211	LOAD	1	???	255165	LOP	1	TT	
212	LSET	1	???	255166	MON8	1	TT	

000000 EXECUTE PROGRAM IN CURRENT DIRECTORY
 000000 'CLS' - CLEAR SCREEN
 000000 EXECUTE PROGRAM IN CURRENT DIRECTORY
 000000 DIRECTORY LISTING
 000000 CLS PRINT 'LOAD LOGOUT TABLE'
 'PRINT#1004, "POSITION TYPE", - PRESS
 F10', - PRESS enter TO CONTINUE
 000000 READ-DIRECTORY SCREEN-CLEAR-13 PRINT#100000
 000000 CLS PRINT 'SEARCHING FOR LOGOUT'
 000000 OPEN 1, 1, "LOGOUT"
 000000 CLS PRINT 'FOUND LOGOUT'
 000000 FILE-1 TOLL FREECODE-1 OTHERCODE-11
 000000 INPUT-11-NEXT TO 11-NEXT

001100 CLOSE-1 Using 1 character length in Current program
 001120 CLS PRINT 'LOAD LOGOUT COMPLETE'
 001130 ED-PEEK#25 002000-PEEK#26 001
 001140 EXECUTE#99
 001150 PRINT-PRINT PROGRAM END#100 CONVERTE
 'PRINT#1004, "START LOGOUT",
 PEEK#25 0025, 0#FILE#26#14
 001160 PRINT#1004, "END LOGOUT", 0#
 001170 PRINT#1004, "CURRENT LOGOUT"
 001180 EXIT#50000
 001190 LOOKUP FOR 00010000-00010010
 001200 FILE#1004, FILE#1004-00010000
 001210 LOOKUP FOR 00010000-00010010

Continuation
page 17

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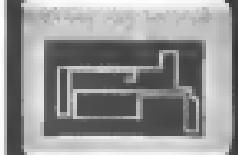
ACTUAL SCREEN DISPLAY



INTERPLANETARY CRADLE

This is a full length program in which you play the role of a space station operator. You must maintain the station's systems, repair damage caused by meteorites and alien attacks, and deal with the many emergencies that can occur. You will also have to deal with the many visitors who come to your station, some of whom are friendly, others not so friendly.

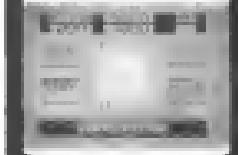
ACTUAL SCREEN DISPLAY



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ACTUAL SCREEN DISPLAY



INTERPLANETARY CRADLE

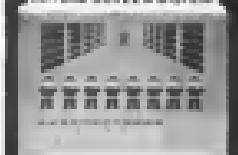
A space station operator's job is never easy. You must maintain the station's systems, repair damage caused by meteorites and alien attacks. You will also have to deal with the many visitors who come to your station, some of whom are friendly, others not so friendly.

ACTUAL SCREEN DISPLAY



EXECUTION

ACTUAL SCREEN DISPLAY



EXECUTION

Are you ready for justice? This most unusual game is set in a medieval castle. You must become the executioner and carry out the death sentence of your condemned prisoners. You must use your skill and judgement to carry out your task as quickly and efficiently as possible. Executions feature many graphics and sound effects. Death offers you a choice of weapons, from the sword to the axe, and you can even choose to drown your condemned prisoners.

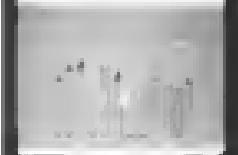
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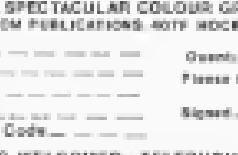
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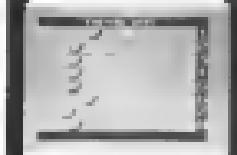
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ACTUAL SCREEN DISPLAY



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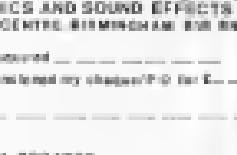
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If you're an avid reader of classified advertisements as I am, then you'll have spotted one from a small software house called Nemesis plotting an adventure with the strange title, *The Trail of Arnold Blackwood*. Intrigued to discover more about his enigmatic Arnold I wrote off for a copy. What came back was a straightforward and interesting adventure on earth chipping out and there professionally presented (as some of the programs I got the packing) than many other small scale productions.

Handy addition

The adventure uses an open ended character set to make the screen lay out more attractive, though Nemesis says that in order to do this it had to sacrifice a SAVVY routine which is unfortunate. Arnold accepts the usual adventure input with words being recognised by the first three letters, and an unusual addition is that you don't need to type OCT to pick up an object! The program assumes that's what you want to do unless you specify some other action.

Each place you visit has three headings which are emphasised in Neal's tape based LOCATIONS, VOICES and DIRECTIONS which are self-explanatory. What isn't self-explanatory is the purpose of the last section. You take the part of Arnold Blackwood and you're suffering from loss of memory. You start in a fireplace on the Estate of Lord Crewe and you know you're in some kind of mission... but what? You also know that Lord Crewe has plenty of expensive buildings so...

The first part of locations has you wandering around outside the house trying to piece out a way through the locked side door. Shutting shades and other buildings give you a few tools while wandering into a greenhouse. Has you confronted by a wiz if you haven't got the item that sorts out the kinks, then you're stuck as the greenhouse does cause trouble but as the program doesn't integrate OCT END or similar words there seemed no alternative but to re LOAD through here. I discovered you could BREAK and GO TO 10 which gets you back to the opening location but was the object you already accumulated still

in your possession (though issued with GOLOAD). The program is apparently a mix of basic and machine code:

You might jump into a mobile phone which gives you several along the lines of "Don't eat the biggest in [Name] is a cat when contacted, some of which wants to move when you enter the house and the adventure begins to open up. You encounter a grandfather and Mexican Pete, not to mention a DOG 81, and while this is far from being a vast adventure it is puzzling and includes some intriguing responses from time to time. As it is it's a reasonably priced and obtainable from Nemesis at £10. Contact Reed, Pengoed, Carmarthen, N. Wales, CF4 4DW.

More expensive at £9.95 are two tapes in the Mysteryland Adventure series from Channel 8 and if you've missed The Golden Falcon which was author Sean MacNeela's first attempt at adventure writing, you can now not only a follow-up with Arnold of Crewe, but follow up to the follow-up in *Arrow of Death Part 2*. They follow the format of the rest of the series, having a Dragon 64 graphics version and a Dragon 32 text-only version on the same tape and making use of the great character set which makes the system look more like a Spectrum than a Dragon.

Now when you acquired the Golden Falcon at the end of the first adventure (and do you mind you haven't imagined it yet?) you thought your troubles were over. Indeed they were for a time but nevertheless in the Kingdom passed bad things began to fail and there was nothing but gloom and despondency all around. The King no longer shined like gold, but tarnished and red eyes to draw associated with it. Your task is to find the source of the evil and the means of dealing with it. You descend the Palace of the King where the Golden Falcon is lost in the Throne Room through any attempt to do anything with it at first is doomed to disaster... in fact that has to wait till Part 3 as Part 1 usually has you finding what it is that you need in order to defeat the dragon.

As I've said before about the series they're not to everyone's taste and why? I find them especially tatty these days, glory who would think they're undeniably simpler. Luckily there's what I like about them

is that everything has a purpose even though that might not become apparent to much later on in the story. You may get to know which locations are likely to be significant even if this isn't obvious at first. Find a shovel and you can be sure you'll have to LOAD all over the place to uncover something useful that happens in Part 2, and if you LOAD everywhere and LOAD AGAIN everything then the maths is progress you just has to be there.

The real descriptions are kept very brief and there would be a lot more atmosphere about the stories if they were expanded a little, but there are certainly plenty of locations to explore. In the first part you soon leave the Palace, down and then wandering round various other cities and the caves... by the time you've already discovered that it means to deal with the evil is going to be an arse, so you're searching for the parts that you'll need.

Seal and destiny

When the second adventure begins you are armed with a sword and everything you need in order to make the move with which you must destroy Arden, who is the source of the evil. But the only one who can help you make the move is Arnold the Royal Fletcher so first you must gather Fletcher. The human race is very delicate with names, garage, rape,bridge, stone, carrots and shiny-tit devours... yes the inevitable catch-ups in Fletcher too and he has to work to fight it in hidden somewhere. What would we do without hot dogs?

Characters in the adventure include a sneaky gargoyle, a happy mole, an animated skeleton and... hello who's this familiar figure? Yes it's the old beggar... Arnold! All the young beggars get in, I wouldn't! But I though some of the scenes and tasks are almost as many tedious adventure barm-pans of *The Arrow of Death* should certainly give you your money's worth like the rest of the Mysteryland Adventures. But then off and there's adventure in your Dragon too! There's more to come... ■

Black毛毛虫 Mike Gerrard will be looking to adventures for the Dragon. If you have an adventure you want released or you need advice or have some to offer write to **Mike Gerrard's Adventures, Trail of Dragon, Llan-**

Pixel problem

I HAVE encountered a problem in trying to move shapes around the screen screen through machine code.

Due to the way mapped nature of the screen it would appear impossible to move any one screen location (byte) on to another location (location) in any space other than a byte. This byte jumping gives a jerky appearance to the movement.

Simon Lovell
Cork
Eire

IT IS simple to move graphics pixel by pixel using assembly language. If you use two shift commands. For example, in mode 4, to move a byte at loc. 3273 one pixel to the right you would use the following code:

LDX X 3273

LDA X

CLRA

LEPA

RDPL

STA X

STD 10

Using successive LDH and RDPL it is possible to smoothly move as many bytes as you like.

Relocatable routine

DRAGON 32 BASIC has no instructions such as FREE/STORE M which is very useful when managing numerous data.

Do you know of a routine to replace FREE/STORE M?

David Major
Monsomoney
Runcorn

THE DRAGON's routine command can only be used to recall the data pointer to the start of the program, not to any particular line. The short listing given will when included in your programs, give this facility. To use it, simply type .321-125P(321) where 'n' is the line number at which you want to



start reading data. The routine is relocatable in memory.

5 RESTORE TO A LINE NUMBER
10 CLEARSCREEN
20 FOR I=0 TO 100: READ A\$: POKE 33748-I, VAL(A\$)+80: NEXT
30 DATA B0, B0, B7, C0, 3B, 3B, 1B, B0, B4, C0, 2B, 3B, 3B, 1F, B7, C0, 3B, C0, 3B, 3B, 4B
40 DEF SUBROUTINE=32738

Confusing PUT options

AFTER playing around with the GETting and PUTting of graphics I have come across a problem. I started by experimenting with the other commands to FREE/RET in AND/HOT and so on. A problem arises when I use these commands. I checked out by using GP, this should according to the manual have the effect of overwriting one drawing with another.

The result of using this is that the picture you are PUTting goes 'word' and the picture you are trying to overwrite gets erased. Most of the other commands work either. Can you solve my problem?

Martin Hoyley
Wolverhampton
West Midlands

THE PUT options OR, AND, NOT do work correctly, but they are in little publishing. Using 'GP' will logically or the image in the array with that on the screen. This has the effect of blue + yellow = red, and any other colour +

green = other colour. Using AND has the following effect: red + any colour = that colour, any colour + green = green. These two options work best if a red image is held in the array and PUT has it to a green background.

The NOT option takes notice of what is actually in the array, it simply inverts a section of the screen within the given co-ordinates (that is, green becomes red, yellow becomes blue and vice versa).

Basic stack

WHAT DOES the FOR/NEXT or GOSUB/RETURN do to locate the Basic stack? Is there a way to PUSH/PULL on it?

Oliver Neale
Dorset
Dorset

BACK TALK: in FOR/NEXT loops in use, as a general recommendation, addresses are pushed onto the Basic stack. When a NEXT or RETURN is used, an address is pulled from the stack. As the same stack is used for both loops and subroutines you cannot do the following:

10 FOR I = 1 TO 10
20 Subroutine
30 STOP
40 NEXT

This stack is completely separate from the \$4000 stack and should not be confused with that, the Basic stack cannot be

directly used by the program.

Opcode error

HAVING recently started machine code, I am finding it very trying to use the high resolution subroutines (for example QET/PUT) in machine code. The method I use is to load the computer in to running a basic line during a machine code program but with little success. The following routine should set a point at (030100):

LDX \$4000
PMSK X
LDA #00000000
LDA X
ANDCC #FFFE
JER 403000: PSET
earns location
PULS X
STD \$4000
RTS
PSET PCB 10240 40 40
40 44 49 48 48, 41 0
RTD
10 PMODE 4, 1: PCLS
EXSCREEN 1, 1: EXEC
MAMPSI
20 000000

The problem arises when using the PSET PCB line as the cursor reaches the end of the line and on entering the remaining numbers on the next line, an invalid opcode error is reported during assembly. Can you be of any help?

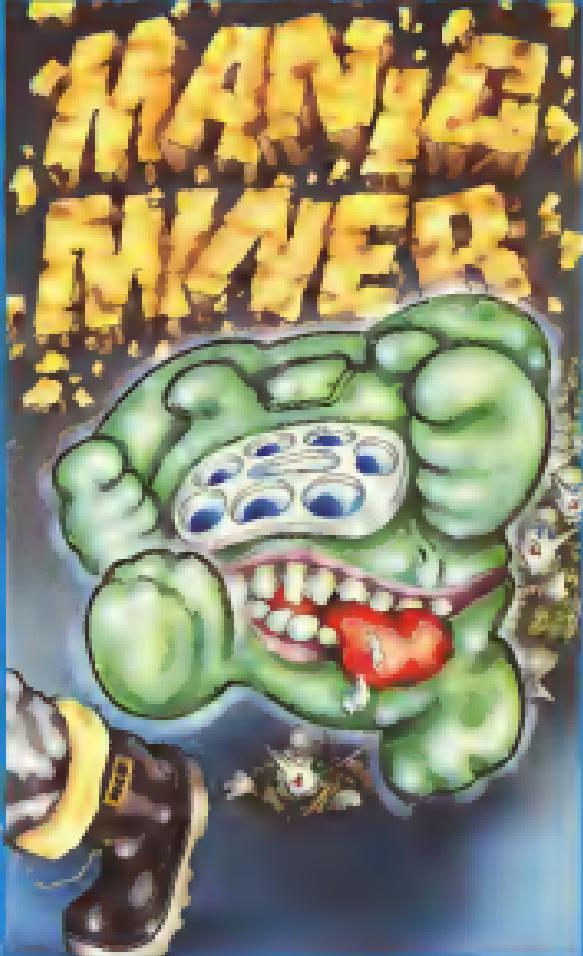
A Jayashankar
Mansfield
Nottinghamshire

THE PROBLEM is as you suspected. In the line of PSET, it is not necessary to have the command token value (\$72) in this line, a correct version of this program would read:

LDX \$4000
PMSK X
LDA #00000000
LDA X
STD \$4000
JER 403000
PULS X
STD \$4000
RTS
PSET 4048,40,40,44,45
40,48,41,0



game itself, while programming allows them to play many interesting games on computers, keep themselves entertained or further their education. The main emphasis of most software is to expand the computer's capabilities to new levels, while new developments are being made daily. The computer can be taught to understand more and more of the plain educational technology. New advances of personal computers, especially the Apple II, have made it possible for the user to learn almost anything he wants to learn. Mathematics, science, history, English, art, etc. are all available. Many people feel that the future of education lies in the computer. Many schools are now using computers in their classrooms and there are many more schools that are planning to do the same. Many parents are worried about the safety of children who use computers and are concerned with the problems that can occur with the computer. It is important for parents to make sure that the computer is used in a safe environment. It is also important for parents to make sure that the computer is used in a safe environment. It is also important for parents to make sure that the computer is used in a safe environment.



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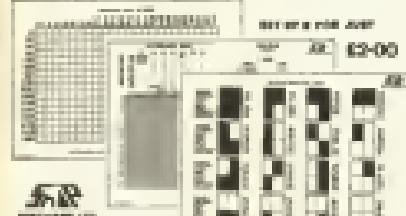
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PRIZE

BEAU JOLLY is offering six readers a chance to win one of his Dragon "wizards". The pack contains two games from Imagine Software's range of titles: "They Are Pedro" and "The Castle Doctor". Length and Asplode.

RULES

To WIN a "wizard" you must show both the answer to the competition and how to solve it with the use of a BASIC program developed on your Dragon. Please do not send in a cassette containing the answer. As a tie breaker complete the following sentence in 10 words or less: "I want to own Beau Jolly's Dragon wizpack because..."

Your entry must arrive at Dragon User by the last working day of December. The winner and the solution to the quiz will be published in our March issue. Entries will not be acknowledged and will not enter into correspondence on the result.

SEPTEMBER WINNER

THE WINNER of the September competition and recipient of £100 of software from MicroGen is David Richardson of Gosport in Surrey. David correctly stated that the correct solution was 84848. This is because 84848 multiplied by itself is 716528964. This is a ten-digit number in which each of the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 occurs once and only once.

RINGWORLD WINNERS

THE 50 winners in Wimborne's Ringworld competition each receive a copy of its latest adventure, *The Return of the King*. They are:

Michael Stinson Plymouth A. Kirk Cheshire M. Jones Kent, Simon Green Tyne & Wear Fraser Lampson Wu Kee Tsung South G. Petty Swansons P. Richardson Sussex R. Mandeville Luton P. Moore Newcastle I. Barnes Canterbury S. Parker Suds M. Pausa Leeds A. K. Jones Chelmsford D. Southgate Kent K. Holmes Essex P. Begg Aberystwyth G. Edwards Preston P. Stewart Kent J. Pilkington Humberstone D. Spiteri South Wales G. Hunter Southampton G. Thomas Midland R. Davies Kent R. Garting Kent R. Daniel Wests A. Cook Gloucester M. Arnold Herts S. Mallock

Magic cards

Beau Jolly provides the prize to Gordon Lee's four-card game

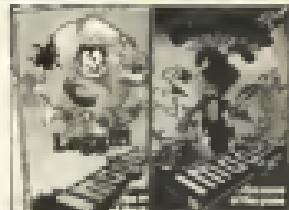
LAST CHRISTMAS on this page we took a look at the computer versions of a classic traditional party game: as they're now about Christmas time, here's the computer version magic trick. Does it really work? We're leaving it Dragon-in!

Before starting the program below should be loaded in to your computer. Then hand out an ordinary pack of cards to be shuffled and divide each of your spectators to select a card. Assuming that the Dragon will attempt to identify the cards selected and invert each position in turn so as to fit the computer. The computer will display the names of a number of cards and tell us if the spectator's card is listed.

Selections

By pushing *Down* keys 'Y' or 'N') a further five selections of cards are displayed. After the final reply has been made (the name of the card selected will be announced on the screen later).

This month's competition is also related to playing cards. The other day the following curious conversation took place between the eccentric mathematician Professor Otto Max and his equally eccentric son



Professor Max: It takes in my hand four cards taken from a standard deck of playing cards. They are added: a diamond is added to a spade. If I want to add the face value of the card to the face value of the diamond and then add the hand to the spade and multiply these two totals together, the product is equal to Batman Batman's age next birthday.

Max Junior: There are many combinations of cards that will produce that total Professor Max. Could you tell me the number of different combinations of four cards taken from a standard pack that will equal that total in fact a prime number?

Max Junior: I still need more information.

Professor Max: What two cards have the same value but neither is the spade which is a note?

Max Junior: Now I know all four cards (Note that Jack = 11, Queen = 12 and King = 13 — and it should be assumed that sufficient time elapsed between each statement to allow Max Junior to make his necessary calculations)

What were the four cards (and how old is Batman)? P.S. ■

Computer-generated	
1	10
2	10
3	10
4	10
5	10
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10	10
11	10
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Norfolk: C Hopkins, Hem. M.P. Steer
Notts: J Cardwell, Kent: W Greenhalgh
Suffolk: J Burroughs, Herts: M Read
Wiltshire: Books, B. Smith, Dorset: H. Llewellyn, Somerset: J. Hughes, Man
Wales: K. Webb, N. Ireland: R. Barry
West: A. McFarlane, Belfast: E. Armstrong, N. Ireland: A. Page, M. McElroy
W. Dorset: D. Power, Northamptonshire: I. Bickley, Manchester: G. Kenyon
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Other winners have been contacted

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